DOCUMENT RESUME

ED 043 157 EC 030 031

TITLE	Directory of Services for the Multiply Handicapped Deaf and/or Hearing Impaired. Resources for the Rubella Deaf Child.
INSTITUTION	Gallaudet Coll., Washington, D.C.
PUB DATE	Jun 70
NOTE	102p.
EDRS PRICE	EDRS Price MF-$0.50 HC-$5.20
DESCRIPTORS	*Aurally Handicapped, Bibliographies, Directories, Educational Facilities, *Exceptional Child Services, Institutions, Literature Reviews, *Multiply Handicapped, Research Projects, Residential Schools, Rubella

ABSTRACT

The directory contains information on centers, facilities, and schools which provide some services or programs suitable to the needs of the deaf or hearing impaired who have additonal handicaps (adults as well as children). A brief description of the facility, the clients served, and the services offered accompanies the listing of each facility's name, address, and director. In addition, the following information is included: research projects in the field of rubella, and relating to the multiply handicapped; abstracts of literature on rubella and on the multiply handicapped hearing impaired; and bibliographies of literature on rubella and on the deaf multiply handicapped. (KW)

RESOURCES FOR THE RUBELLA DEAF CHILD

ED0 43157

Directory of Services for the Multiply Handicapped Deaf and/or Hearing Impaired

EC 03D 03/E

AMERICAN ANNALS OF THE DEAF
GALLAUDET COLLEGE
WASHINGTON, D.C. 20002

ED043157

EC030031

PREFACE

The Conference of Executives of American Schools for the Deaf has published since 1848 a list of schools and classes for the deaf in the United States. For the past few years more and more facilities for the multiply handicapped deaf pupils have appeared in the *Directory of Services for the Deaf in the United States* of the *American Annals of the Deaf.* Because of the rubella epidemic of 1963-65 the number of multiply handicapped deaf pupils has increased to such an extent that it was deemed necessary to publish a separate directory of centers, facilities and schools providing services for the deaf and/or hearing impaired with additional handicaps.

The project, *Resources for the Rubella Deaf Child* and *Directory of Services for the Multiple Handicapped Deaf and/or Hearing Impaired* was made possible by a grant from the Social and Rehabilitation Service, Department of Health, Education, and Welfare to the Conference of Executives of American Schools for the Deaf in conjunction with their grant for the *Directory of Services for the Deaf in the United States, American Annals of the Deaf.*

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

FOREWORD

The Directory of Services for the Multiple Handicapped Deaf and/or Hearing Impaired is an attempt to meet a need brought about by the rubella epidemic of 1963-65. The epidemic resulted in the birth of thousands of handicapped children, over half of whom have a hearing handicap of various degrees. The *Directory* has not been limited to listing centers and facilities caring for the deaf and hearing impaired multiple handicapped children, but has listed those centers and facilities which have indicated they provide some service for the deaf and hearing impaired multiple handicapped adult as well. The *Directory* does not attempt to list all centers caring for the multiple handicapped, but only those which have a program suitable to the needs of the deaf and hearing impaired who have additional handicaps.

It is emphasized that the *Directory* does not list all centers, facilities, and schools that provide a program for the multiple handicapped deaf or hearing impaired. It lists only those that have replied to our survey request. Any omissions or discrepancies will indicate a lack of information of the probable existence of additional centers.

Powrie V. Doctor, Project Director

Ferne E. Davis, Asst. Project Director

June 1, 1970
Gallaudet College

ABSTRACTED - CEC ERIC

TABLE OF CONTENTS

Centers, Facilities and Schools Offering Services for the Multiply Handicapped Hearing Impaired or Deaf 1

Area Centers and Services for Deaf-Blind Children 54

Research Projects in Field of Rubella 56

Research Projects Relating to the Multiply Handicapped 57

Abstracts of Literature on Rubella 62

Abstracts of Literature on Multiply Handicapped Hearing Impaired 73

Bibliography of Literature on Rubella 83

Bibliography of Literature on Deaf Multiply Handicapped 96

CENTERS, FACILITIES AND SCHOOLS OFFERING SERVICES FOR THE MULTIPLY HANDICAPPED HEARING IMPAIRED AND/OR DEAF

ALABAMA

CENTER FOR DEVELOPMENTAL AND LEARNING DISORDERS, UNIV. OF ALABAMA 1919 7th Ave., So., Birmingham 35233 (205-934-5471)
Charles A. Alford, Jr., M.D. and Andrew Lorincz, M.D., Directors

A university affiliated Center for Mental Retardation serving ages from infancy to young adult. Comprehensive services provided for those with multiple handicaps.

Services: Comprehensive services provided for mentally retarded and retarded multiple handicapped children. A multidiscipline program of medical and psychological evaluation, counseling, audiological services, parent counseling, and referral services is offered. The Center provides academic, pre-vocational and vocational training. Physical restoration is available through associated programs.

MOBILE (ROTARY) REHABILITATION CENTER
1874 Pleasant Ave., Mobile 36617 (205-479-0641)
George Hufford, Executive Director

A comprehensive rehabilitation center providing special services to children from 3 to 6 years of age who are deaf-aphasic or other CNS involvement, deaf and/or hearing impaired cerebral palsied, and deaf and/or hearing impaired mentally retarded. Preschool facilities will move to new location in June, 1970. (First Baptist Church, 806 Government Street, Mobile)

Services: All patients are admitted by doctor referral. Counseling for parents is provided. Services for the hearing impaired include audiological testing, hearing evaluation, and hearing aid orientation. Cerebral palsied deaf receive physical, occupational, and developmental therapy. Psychological and neurological diagnosis and evaluation are provided by Group Aid for Retarded Children Diagnostic and Evaluation Clinic. Preschool education classes are conducted for the deaf or hearing impaired multiply handicapped children. Parent counseling and a home program are included in the services provided by the center.

TALLADEGA *(See Area Centers for Services to Deaf-Blind Children)*

PARTLOW STATE SCHOOL AND HOSPITAL
P.O. Box 1730, Tuscaloosa 35401 (205-553-4550)
T. H. Patton, M.D., Asst. Superintendent

A state operated residential center for the mentally retarded serving ages from 5 years and upward. The center serves all types of mental retardates, as well as those with additional handicaps of hearing, visual, or neurological impairments.

Services: All admissions are by court commitment. Medical, phychological and social evaluations are made on all residents. All types of neurological impairments are treated. Other services include occupational, physical, and speech therapies, psychological and parental counseling. Academic training and kindergarten classes are available for all those who can benefit from the program. Pre-vocational and vocational

training are dealt with by the Civitan Rehabilitation Service which is jointly financed and managed by Partlow and the State Rehabilitation Agency.

ALASKA

THE ALASKA TREATMENT CENTER FOR CRIPPLED CHILDREN AND ADULTS

3710 East Twentieth St., Anchorage 99504 (907-272-0586)
Nick W. Peters, Executive and Clinical Director

A day center and total rehabilitation clinic for all age groups. Serves the physically handicapped and hearing impaired.

Services: The Center provides psychological services, physical and occupational therapy, hearing evaluations and speech and hearing therapy for persons with various and multiple handicaps. Preschool diagnostic nursery and kindergarten for children with learning disorders and hearing impairments are operated by the Center. Referral services, family and individual counseling are provided in addition to a home program of physical therapy, social casework and followup. Lipreading and auditory training for hearing impaired adults are available.

HARBORVIEW MEMORIAL HOSPITAL (SUGARLOAF CENTER)

Dept. of Health & Welfare, Div. of Mental Health
P.O. Box 548, Valdez 99686
Lynette M. McCoy, Chief Nurse

Harborview Memorial Hospital is in the process of being renamed Sugarloaf Center and is the Alaska State operated residential service center for the mentally retarded. The center also serves the retardate with additional handicaps of brain damage, cerebral palsy, blindness, deafness, etc. The present age range is from 6 to 67 years.

Services: All patients are admitted from the Alaska Psychiatric Institute following a complete physical and mental evaluation and final determination of mental retardation. Present programs include special education, recreational and occupational therapy, and a four phase vocational training period consisting of home unit, supporting services, and community services. The Center maintains a continuing medical and dental evaluation with routine treatment in Valdez and specialized treatment by referral to Anchorage area. A proposed new speech and hearing unit at the Center will perform as a test center for the Prince William Sound area. A total staff of 109 includes: nursing staff, special education, recreational, occupational, and vocational training personnel. Inservice training for the staff is planned by the Speech and Hearing facility to insure a complete program for the retarded hearing impaired.

ARIZONA

ARIZONA CHILDREN'S COLONY

P. O. Box 1467, Coolidge 85228 (602-723-5471)
William J. Waters, Superintendent

A State operated residential and day care center for the mentally retarded and retarded multiple handicapped. Children and adults of ages 3 to 39 years are served.

Services: A multidisciplinary evaluation is routinely made at the time of admission. Counseling is conducted by psychology, social services, training, and education

divisions. Medical services include medical and nursing care, dental facilities and physical therapy. Vocational training, placement, pre-vocational experience and the use of the workshop are available. The academic program is based on educational, social and personal ability levels of a special individualized type rather than corrective type of education. Yearly evaluations utilizing the Trainable Mentally Retarded Profile and/or Wide Range Achievement Tests are made of each student.

PERRY REHABILITATION CENTER
3146 E. Windsor Ave., Phoenix 85008 (602-956-0400)
R. Kenneth Maton, Executive Director

A day school and training center for the mentally retarded from 3 years of age and upward. The center accepts individuals with additional handicaps of cerebral palsy, asthmatic, physically disabled, visual and hearing impairments.

Services: The Center provides an educational and vocational training program for its clients. A sheltered workshop is maintained for all handicaps. Speech therapy and psychological services are available.

REHABILITATION CENTER, COLLEGE OF EDUCATION
UNIVERSITY OF ARIZONA, Tucson 85721 (602-884-1860)
David Wayne Smith, Ph.D., Director

A university affiliated day Centerserving all disability groups of all ages.

Services: Referrals are accepted from all community agencies. Services offered include individual and group counseling, physical and occupation therapy. The Center's main emphasis is on evaluation, but some training and therapy are provided.

ARKANSAS

ARKANSAS CHILDRENS COLONY
Conway 72032 (501-329-6851)
Charles Acuff, Superintendent

A state operated residential training school for mentally retarded accepting multiple handicapped children with a primary diagnosis of mental retardation. Age groups served are from 6 to 21 years.

Services: Complete medical care, education and training are provided by the School. Occupational and physical therapy, psychological evaluation and counseling, vocational evaluation, training and placement, and parent counseling are available. Academic classes through 8th grade level are a part of the educational program.

GOODWILL INDUSTRIES OF ARKANSAS
1201 W. Seventh, Little Rock 72201 (501-376-1941)
Malcolm C. Hearne, Executive Director

An outpatient rehabilitation center and sheltered workshop for all disability groups of 16 years of age and older.

Services: Occupational therapy, counseling, evaluation, work adjustment, placement, interim and terminal employment are included in the Center's program of pre-vocation and vocational training.

TEMPLE MEMORIAL TREATMENT CENTER
304 E. 5th St., Texarkana 75501 (772-3789)
Beverly Schaefer, Director

An Easter Seal treatment center offering day care for orthopedically handicapped children from age of birth to 21 years. Services for children who are deaf-blind; hearing impaired or deaf and mentally retarded; and hearing impaired and cerebral palsied are also provided.

Services: A monthly screening and diagnostic clinic and physician's referral are necessary for any treatment and educational program at the Center. The Texarkana Mental Health Clinic provides psychiatric and psychological services for cases requiring them. Physical, occupational and speech therapies and audiological, diagnostic evaluations and medical counseling are provided. Monthly diagnostic screening clinic are held at the Center. Also available are prosthetic and orthotic clinics. Special education is provided in an orthopedic classroom and preschool for hearing impaired children. There is instruction for the deaf-blind.

CALIFORNIA

SONOMA STATE HOSPITAL
P.O. Box 176, Eldridge 95431 (707-996-1011)

State operated hospital for the severely and profoundly mentally retarded of all ages. Serves the mentally retarded children with any degree of associated physical handicaps requiring 24-hour care.

Services: Provides complete care and treatment of the mentally retarded including vocational training and use of workshop. Occupational, physical and speech therapy, psychological evaluation and counseling and parent counseling are available. 31 northern California counties are served.

GLENDALE ADVENTIST HOSPITAL REHABILITATION CENTER
1509 Wilson Terrace, Glendale 91206 (213-244-4684)
E. Remboldt, Hospital Administrator

A physical restorative and rehabilitation center adjacent to a general hospital. Physically handicapped persons with hearing and speech impairments of all ages are treated.

Services: All inpatients are completely evaluated by applicable department on admission and receive orientation to rehabilitation program by social service department. Complete physical restoration program including physical, occupational therapy and speech and hearing services. Limited pre-vocational evaluation and training are available.

BAY AREA DEVELOPMENT CENTER
9239 Venice Blvd., Los Angeles 90034 (213-838-2217)
Robert W. Mannlein, Dir. of Social Services

A day care school and developmental center for children from ages 3 to 16 years of age who are multi-handicapped. Cerebral palsy, physical involvement and a variety of other handicaps: hearing loss, perception, and retardation are enrolled.

Services: Multi-handicapped children who are not eligible for special training classes in the public schools because of immaturity, and/or severity of handicaps are enrolled in a school-type setting. Emphasis is on training in self-help activities, socialization and sensory-motor perception. Children receive speech therapy. Teaching is under the supervision of medical consultant, occupational and physical therapist.

DIAGNOSTIC SCHOOL FOR NEUROLOGICALLY HANDICAPPED CHILDREN, SOUTHERN CALIFORNIA
STATE OF CALIFORNIA, DEPARTMENT OF EDUCATION
4339 E. State College Drive, Los Angeles 90032 (213-225-6187)
Donald I. Ashurst, Ph.D., Superintendent

A state operated school and diagnostic center serving residents of California between the ages of 3 and 21 years of age who have a dysfunction of the central nervous system, but may have additional multiple handicapping conditions of sensory, emotional, intellectual and motor in varying combinations and degrees.

Services: The primary function of the School is the diagnosis and remediation of children with learning problems for the California State Department of Education. The School is currently developing an in-depth appraisal and assessment of the problems confronting children who have suffered multiple sensory deprivation – mainly the two major sensory areas of vision and hearing. Specifically, these are children who suffer from post-rubella syndrome effects of the 1964-65 rubella epidemic. A diagnostic evaluation requires that the parent be present during the evaluation which is a 5-day residential period. The evaluation includes tests and studies in psychology, education, social work, language and speech, neurology, hearing and vision, pediatric, physical medicine, x-rays, and other studies as indicated. At the conclusion of the evaluation period the findings are reviewed by the diagnostic team and recommendations are made to parents and school personnel.

SPASTIC CHILDREN'S FOUNDATION
1307 W. 105th St., Los Angeles 90044 (213-757-9361)
Mrs. Anne Wendt, Executive Director

A training center for mentally and physically handicapped individuals. Five day residential care for children 3 to 18 years of age and seven day residential care for adults 18 years of age and older. Accepts children with additional handicap of hearing impairment.

Services: Program emphasis is on the total development of the individual's potential and to offer relief to the parents. Individual and group counseling for children and parents are stressed. Training includes social development, emotional stability, special education, speech, physical and occupational therapy, and workshop employment.

CASA COLINA HOSPITAL FOR REHABILITATIVE MEDICINE
255 E. Bonita Ave., Pomona 91767 (714-593-1336)
Daniel J. Feldman, M.D., Clinical Director

A rehabilitation center for individuals of all ages with visual, mental, and or physical impairments.

Services: The rehabilitation center offers medical, social, psychological, and vocational rehabilitation. Physical, occupational and speech therapy, counseling, audiological and psychological testing and evaluation are included in the services provided. There is a pre-vocational and vocational training program for adults. A preschool for multiple handicapped children has a limited afternoon program for rubella preschool children.

PACIFIC STATE HOSPITAL SCHOOL
Box 100, Pomona 91766 (714-595-1221)
R. V. Goodman, Jr., Administrator

A state operated hospital and school for the mentally retarded of all ages. Accepts all types of mental retardation including those with additional handicaps of impaired hearing or deafness.

Services: Complete services for the care and treatment of the mentally retarded are provided. Other services include occupational and physical therapy, individual and group therapy, psychological evaluation and counseling and parental counseling. Habit training, behavioral modification, habilitation, educational and vocational training are stressed.

SCHOOL OF HOPE, COUNCIL FOR RETARDED CHILDREN
1235 Devon Place, Redlands 92373 (714-884-6484)
George W. Hooper, Executive Director

A day school, training and guidance center and sheltered workshop for mentally retarded with various combinations of handicaps. Services an age group from 2½ years through 50 years.

Services: The school program emphasis is in helping each retardate to realize as nearly as possible his potential. Work is with all degrees of retardation (TMR, EMR) and various combinations of handicaps accompanying retardation. An educational program of nursery, primary, intermediate, and senior grade levels is provided. Prevocational training and sheltered workshop employment are also available.

CREST HAVEN SCHOOL (RIVERSIDE CO. ASSN. FOR RETARDED CHILDREN)
5969 Robinson Ave., Riverside 92503 (688-5141)
John H. Morant, Executive Director

A day training center for retarded and multi-handicapped children from 2½ to 15 years of age. Multiple handicaps of deaf-blind mentally retarded are enrolled.

Services: A day school training program accepting the deaf-blind retarded into the pre-school program. Referrals to appropriate programs in the area, counseling and social services are available. There is a program of vocational evaluation, counseling and training as well as a sheltered workshop for ages 16 and over.

CALIFORNIA SCHOOL FOR THE DEAF, UNIT FOR MULTI-HANDICAPPED CHILDREN
3044 Horace St., Riverside 92506 (714-683-8140)
Richard G. Brill, Ed.D., Superintendent

A unit for multi-handicapped children who have one or more handicaps in addition to deafness has been developed within this state residential school for the deaf.

Children between the ages of 6 and 14 who are deaf-educable mentally retarded and/or emotionally disturbed are enrolled.

Services: Educational program employs behavior modification techniques in the classroom. Particular stress is placed on parent education program and counseling.

SACRAMENTO *(See Area Centers for Services to Deaf-Blind Children)*

MENTAL HEALTH SERVICES FOR THE DEAF
LANGLEY PORTER NEUROPSYCHIATRIC INSTITUTE
401 Parnassus Ave., San Francisco 94122 (415-731-9150)
Hilde S. Schlesinger, M.D., Project Director

A neuropsychiatric institute for training, research, and clinical and community psychiatry. An outpatient clinic for deaf and/or hearing impaired-emotionally disturbed children and adults.

Services: Psychiatric diagnostic evaluation, study, and ongoing therapy are conducted by a clinical staff of psychiatrist, psychiatric social workers, and psychologist. Special diagnostic examinations (EEG, neurological, audiological, speech and language assessment) available through sponsoring institute. Services include psychological diagnosis and evaluation, interpretation of findings, and follow-up family counseling. Social adjustment evaluation utilizes clinical interview and relevant outside reports.

DIAGNOSTIC SCHOOL FOR NEUROLOGICALLY HANDICAPPED CHILDREN, NORTHERN CALIFORNIA
Lake Merced Blvd. and Winston Drive, San Francisco 94132 (415-584-0685)
Alice A. Brandt, Superintendent

A state operated school and diagnostic center serving residents of California between the ages of 3 and 21 years who have cerebral palsy or similar neurological disabilities. Children accepted into the school must have a dysfunction of the central nervous system, but may have additional multiple handicapping conditions of sensory, emotional, intellectual and motor in varying combinations and degrees.

Services: The primary function of the School is the diagnosis and remediation of children with learning problems for the California State Department of Education. Additionally, the School assists in the Southwestern Regional Deaf-Blind project in diagnosing children referred to them in the Deaf-Blind Project. Children are referred for diagnostic evaluation prior to being accepted in the residential program. A diagnostic evaluation requires that the parent be present during the evaluation which is a two week residential period, depending upon the complexity of the individual case. The evaluation includes tests and studies in psychology, education, social work, language and speech, neurology, hearing and vision, pediatric, physical medicine, x-rays, and other studies as indicated. At the conclusion of the evaluation period the findings are reviewed by the evaluation team and recommendations are made to parents and school personnel. Referral to the residential educational program at the School is also considered at this time and recommended in selected cases.

PROJECT IDEA (INFANT DEAFNESS EDUCATIONAL ASSISTANCE)
751 So. Bascom Ave., San Jose 95128 (408-293-0262)
Richard F. Capano, Ph.D., Audiologist

A pre-school deaf education center for children from birth to 3 years of age. Any multiple handicaps in addition to hearing impairment are also enrolled.

Services: The training program includes diagnostic training for referrals to appropriate programs to meet the needs of the child. There is a program of parent orientation, counseling, and intensive training, and home visits. Children receive monthly evaluation in addition to a preschool training program.

FAIRMONT HOSPITAL, DEPT. OF SPEECH PATHOLOGY AND AUDIOLOGY
15400 Foothill Blvd., San Leandro 94578 (415-351-8000)
D. Wayne Smith, Chief, Speech Path. and Audiology

A hospital for the mentally retarded whose speech pathology and audiology department offers services to the mentally retarded with communication problems. All ages are seen on inpatient and outpatient basis.

Services: All typical hospital services are available. Speech, hearing and language evaluations, individual and group parent counseling, audiological services, including habilitation and rehabilitation training, are offered by the Speech Pathology and Audiology Department. A Nursery Group speech and language class is included in the program.

CHILDREN'S HEALTH HOME FOR MENTALLY RETARDED CHILDREN AND ADULTS, INC.
515 E. Poplar Ave., San Mateo (342-3558)
Mrs. Eve Sevine, Executive Director

A day care nursery school for mentally retarded children 3 to 8 years old and a sheltered workshop for mentally retarded adults 16 years of age and over. The hearing impaired-mentally retarded are accepted.

Services: A non-profit charitable organization devoted to the rehabilitation of the mentally retarded. Services include psychological testing and speech therapy. A program of parent education provides group session instruction and individual counseling and guidance. A nursery school for children operates 2 sessions daily, Monday through Friday. Sheltered workshop provides vocational training and employment for adults to prepare them for possible employment in the community and sheltered employment for persons unable to compete in industry. A recreational program of summer recreation, resident camping, parties, bowling and social club is offered.

KENNEDY CHILD STUDY CENTER
1339 20th St., Santa Monica 90404 (213-293-9585)
Evis J. Coda, M.D. Director

An out-patient diagnostic, evaluation and treatment center for mentally retarded, emotionally disturbed and brain damaged children from infancy to 18 years of age. The hearing impaired-mentally retarded; neurologically impaired-mentally retarded and visually impaired-mentally retarded are accepted.

Services: A multi-emphasis program of medical, psycho-social, and educational evaluation and treatment is provided. Particular emphasis is on individual, group and family counseling. Educational program includes evaluation, counseling, individual tutoring, and academic classes for preschool children through age 12.

COLORADO

BEACON DEVELOPMENTAL CENTER
6100 E. Belleview, P.O. Box 22126, Denver 80222 (303-771-3990)
Jean E. Wallace, Director

A private, non-profit day center for children with educational handicaps—brain dysfunction from 3 to 11 years of age. The hearing impaired-brain dysfunction impaired are enrolled.

Services: The Center offers a therapeutic program in visual perception, aural perception, language development, speech development and therapy, large and small muscle development, music therapy, pre-academic and academic areas. Audiological training is provided for the multiply handicapped.

CHILDREN'S HOSPITAL, DENVER, DEVELOPMENTAL AND EVALUATION CLINIC
1056 E. Nineteenth Ave., Denver 80218 (303-244-4377)
Jean L. McMahon, M.D., Clinic Director

Services: The Clinic provides complete evaluations for all handicapped individuals. Counseling, physical restoration and home care program is available through services of the hospital. Total audiological evaluations and therapy are provided by the Audiology and Speech Department to any child who can benefit from it.

BIRTH DEFECTS CENTER, UNIV. OF COLORADO MEDICAL CENTER
4200 E. 9th Ave., Denver 80220 (303-394-7631)
Arthur Robinson, M.D., Director

An outpatient center with a diagnostic, medical treatment program that serves deaf and hearing impaired in conjunction with all other physical defects. Children from age of birth through to young adults of 19 are served.

Services: The Center provides comprehensive medical care for all patients. Medical diagnosis, treating, planning and follow-up, audiological services, psychological developmental testing and counseling are provided. Referrals are made to community therapy and educational programs. Social casework for families and home care program are included in the services. The Center is also engaged in research and teaching of medical personnel.

GOODWILL INDUSTRIES REHABILITATION CENTER
3003 Arapahoe St., Denver (303-266-3771)
M. Stickney, Director

A vocational testing, training and employment center for the handicapped from 16 to 65 years of age. The center serves all physically and mentally handicapped including multiply handicapped. Does not serve the totally blind.

Services: Psychological and educational testing, occupational therapy, counseling, services are offered. Training program includes remedial education, pre-vocational evaluation and training, vocational training, and sheltered workshop employment. The severely handicapped individuals are placed in a special work adjustment program which lasts from 3 to 18 months.

FITZSIMONS GENERAL HOSPITAL, OTOLARYNGOLOGY SERVICE
Denver 80240
Darrell L. Teter, Ph.D., Director

A school and audiological center in a general Army hospital, providing a program for the hearing impaired-intellectually impaired of all ages, either military or their dependents.

Services: The Audiology and Speech Center provides diagnostic services for the hearing impaired, including a school staffed by a teacher of the deaf, and all the ancillary diagnostic and treatment needs. They offer complete audiological and medical diagnostic evaluation for the rubella child. The Center is presently operating a preschool for acoustically impaired children some of whom are multiply handicapped.

DENVER *(See Area Centers for Services to Deaf-Blind Children)*

MENTAL RETARDATION CENTER
1600 W. 24th Pueblo 81003 (543-1170)
Frances Cline, Acting Director

A residential center for the mentally retarded from 12 to 65 years of age. Additional handicaps of hearing or visual impairments are admitted.

Services: A multi-emphasis program for the care and training of the mentally retarded. Nursing, occupational and physical therapy, social casework, and counseling are included in the program. An educational program, pre-vocational and vocational evaluation and training and sheltered workshop are offered.

CONNECTICUT

BRIDGEPORT REGIONAL CENTER
115 Virginia Ave., Bridgeport 06610 (203-368-2593)
Clifford C. Lockyer, Superintendent

A state day care and out-patient facility for the mentally retarded, or those who function on a retarded level because of concomitant physical, emotional, or social issues. All ages are accepted as well as the hearing impaired-mentally retarded.

Services: The services of the Center are available to the communities surrounding Bridgeport. Services include care, training, and educational experiences commensurate with the intellectual, physical, social and emotional levels of the individual. A clinical team of clinical psychologist, social worker, consultant pediatrician, registered nurse, speech pathologist and educator provide the pre-admission evaluation and annual evaluations. A speech and hearing department provide audiological evaluations to out-patient clinic and speech and language therapy and auditory training to children in the day care program. There is an educational program of preschool, intermediate and readiness, and social living. Occupational training is available.

THE CONNECTICUT INSTITUTE FOR THE BLIND – OAK HILL SCHOOL
120 Holcomb St., Hartford 06112 (203-242-2274)
Frank Johns, Jr., Superintendent

A privately operated Institute maintaining a five-day residential and day school program for legally blind and deaf-blind children from five years of age to twenty. All students served must meet requirements of legal blindness. Out of state residents may also apply.

Services: Oak Hill School, conducted by the Institute for the Blind, is the only school in Connecticut devoted solely to the education and training of legally blind and deaf-blind children. A formal program for deaf-blind children began in September, 1969, with three trained teachers of the deaf-blind on the staff for the program. Medical, psycho-social, and educational evaluations are provided by a staff of consulting medical specialists along with full-time physical and occupational therapists and nursing staff. Academic, remedial and special instruction, music, industrial arts, and physical training are programmed. State provides tuition for each Connecticut student enrolled.

THE HARTFORD REHABILITATION CENTER, INC.
2 Holcomb St., Hartford 06112 (203-242-6231)
June Sokolov, Director

An Easter Seal out-patient rehabilitation center serving physical, mental, emotional, cultural, and perceptual handicaps. The center serves primarily adolescents and adults.

Services: As a comprehensive rehabilitation facility the Center offers the complex of medical, social, psychological, and vocational services to disabled clients who can profit from a habilitation, rehabilitation or maintenance program. Services include medical and/or psychiatric evaluation and supervision; physical, occupational, and speech therapies; social and psychological services; vocational services, and sheltered employment. The home program provides physical and occupational therapy.

MANSFIELD TRAINING SCHOOL
P.O. Box 51, Mansfield Depot 06251 (203-429-6451)
Francis P. Kelley, Superintendent

A training school for the retarded with or without additional handicaps. Residents of Connecticut of all age groups are eligible for care. The school serves all disabilities, if retarded, on an in- and out-patient basis.

Services: A complete program of evaluation, referral, counseling, and physical restoration, educational, and vocational training is provided. Other services include audiological, psychological, psychiatric evaluations and treatment, prosthetic and orthotic clinics, physical and occupational therapy; social casework, and parent counseling.

DELAWARE

OPPORTUNITY CENTER, INC.
3030 Bowers St., Wilmington 19899 (302-762-0300)
John D. Zimmerman, Executive Director

A sheltered and transitional workshop for all handicaps where vocational success is feasible. Handicapped persons 16 years of age and over are accepted.

Services: The Center provides a personal adjustment and work adjustment training experience in a maintained true work situation. Services include rehabilitation and psychological counseling. Sheltered workshop employment is available.

DISTRICT OF COLUMBIA

JEWISH FOUNDATION FOR RETARDED CHILDREN
6200 Second St., N.W., Washington 20011 (202-726-1090)
Erwin Friedman, Ph.D., Director

A residential and day center for the mentally retarded from 4 to 35 years of age. The mentally retarded with additional handicaps of hearing impairment are admitted.

Services: The Center provides a comprehensive program for its patients with psychological, psychiatric, and social services, counseling available. Educational program includes evaluation, counseling and remedial studies. Pre-vocational and vocational evaluation and training are offered.

D. C. SOCIETY FOR CRIPPLED CHILDREN, INC.
2800 13th St., N.W., Washington 20009 (202-232-2347)
William Argy, M.D., Director

An Easter Seal Clinic for the multiply handicapped with emphasis on cerebral palsy. Children from 3 to 6 years of age who are deaf-blind, mentally retarded, cerebral palsied and hearing impaired are accepted.

Services: A pre-school for multiply handicapped children with a small population of deaf or hard of hearing, as well as many perceptual handicapped. Multidiscipline evaluation of each child upon enrollment. Physical, occupational and speech therapy, audiological services and auditory training, psychiatric counseling, intellectual personality tests and observations, play therapy, and cognitive stimulation are included in the program. Orthopedic, eye, and seizure clinics are operated for the physical care of the children. Parents are instructed in a home program of physical, occupational and speech therapy. Academic program is orthodox and Montessori.

CRIPPLED CHILDREN'S CLINIC, D. C. GENERAL HOSPITAL
19th and C Sts., S.E. Washington, 20003 (202-626-5000)
Marc L. West, M.D., Chief Medical Officer

A general hospital operating a handicapped children's service within the crippled children's clinic for ages of birth to 21 years. All combinations of handicaps are accepted for treatment with the exception of mental retardation.

Services: The Clinic operates in-patient service for treatment and provides a complete physical restoration program. Evaluation, referral and counseling services are available. Services include psychological, audiological, social adjustment and limited educational and pre-vocational training.

PILOT SCHOOL FOR BLIND MULTIPLY HANDICAPPED CHILDREN, INC.
3301 7th Street, N.E., Washington 20017 (202-526-5605)
Robert C. Heaton, Director

A non-profit, non-sectarian day school which accepts children with severe visual impairment (totally or legally blind) who, in addition, have other problems of behavior,

speech, and learning which are so acute as to keep them out of public schools. The visually impaired plus all combinations from the ages of 5 years to 16 are enrolled. The upper age limit is flexible depending on need.

Services: The broad scope of the school's program includes the development of new teaching methods and materials; better ways to evaluate the capacity of the multiply handicapped blind child; and an understanding of behavior and learning that will contribute to the educational concepts for all children. Consultation, evaluation and referral services are a continuing part of the program. The Pilot School's goal is to achieve enough change in a child to enable him to meet criteria of an appropriate regular program. The School staff works closely with parents in planning a 24-hour program for the child at school and at home. A volunteer staff, trained by the school, assists the regular staff. Professional community agencies, as well as private physicians, cooperate in meeting the medical and social needs of the children.

SAINT ELIZABETHS HOSPITAL, DIV. OF CLINICAL AND COMMUNITY SERVICES, MENTAL HEALTH PROGRAM FOR THE DEAF
2700 Nichols Ave., S.E., Washington 20032 (202-562-4000)
Luther D. Robinson, M.D. Acting Superintendent

A national center for mental health services, training, and research providing in- and out-patient mental health care for persons of all ages. The Mental Health Program for the Deaf is designed for those individuals who have deafness as a life style in addition to mental health problems.

Services: Deaf patients are admitted to Saint Elizabeths Hospital by the standard admission procedures. The program for the deaf is designed to provide in- and out-patient, partial hospitalization, 24-hour emergency care, rehabilitative services, consultation and education. Therapeutic activities are designed to meet the individual needs of each patient though many activities are carried out in group settings. The program includes individual and group psychotherapy, family, industrial, occupational, art, and dance therapies, psychodrama, educational rehabilitation, and other activities felt to be healing or reconstructive. In addition, the program provides training with various degrees of formality to those interested in the problems of the deaf: Staff on the job, hospital trainees from other disciplines, volunteers on the job, deaf students from colleges and universities, and summer students. Training also includes classes in Sign Language.

FLORIDA

VOULSIA EASTER SEAL CENTER
1219 Dunn Ave., Daytona Beach 32014 (904-255-4568)
Harry M. Singer, Executive Director

A comprehensive out-patient rehabilitation center for physically handicapped of all ages.

Services: Occupational, physical and speech therapy are available at the Center as well as prosthetic and orthopedic clinics. Pre-school training for the physically handicapped (including speech and hearing impaired) for children 3-6 years of age. The Center offers pre-vocational evaluation and vocational training.

PEDIATRIC CARE CENTER OF BROWARD COUNTY, INC.
901 N.W. 9th Ave., Fort Lauderdale 33311
Anna Storck, Executive Director

A custodial care center for all types of handicapped and mentally retarded children from birth to 16 years of age.

Services: The Center at present provides mainly custodial care and physio-therapy. A new center to be opened in the fall of 1970 will provide cottage type of living and medical, psychological, educational, and social services will be offered.

BREVARD CRIPPLED CHILDRENS CLINIC
450 E. Sheridan Rd., Melbourne 32901 (305-723-4474)
Melba C. Wallis, Executive Director

An out-patient rehabilitation center and school serving all physical handicaps of all ages of the area regardless of race, creed or financial ability.

Services: The Center offers rehabilitation and educational services to the physically handicapped. Occupational, physical and speech therapies, plus vocational evaluation are provided. Other services include equipment purchase and loan, summer recreation, medical evaluations, professional education and scholarships, and information and referral services. There is an educational program for preschool and grades 1 to 12.

CRIPPLED CHILDREN'S SOCIETY OF DADE COUNTY, INC.
1475 N.W. 14th Ave., Miami 33125 (305-634-6571)
Felicia M. Gacek, Acting Director and Program Director

An out-patient rehabilitation center serving all physical handicaps and all ages.

Services: The Center conducts evaluation clinics twice weekly. Physical and occupational therapies, counseling and group psychodrama, and audiological services are included in the overall program.

SUNLAND TRAINING CENTER AT MIAMI
20000 N.W. 47 Ave., P.O. Box 678, Opa-Locka, 33054 (305-624-9671)
Arnold D. Cortazzo, Ed.D., Superintendent

A state training Center for the care and training of the mentally retarded. Hearing impaired or deaf and mentally retarded as well as other types of handicaps are admitted, but basic disability must be mental retardation. No age or sex limitation for patients served.

Services: Care, treatment, education, and rehabilitation are provided to residents and patients of the Center. Physical, occupational, individual and group therapy, counseling, academic, pre-vocational and vocational training are part of the regular program. Services are available only to residents of the institution, those on its waiting list, or to other clinic referrals from the community.

FORREST PARK SCHOOL FOR PHYSICALLY HANDICAPPED CHILDREN
1600 Silver Star Road, Orlando 32804 (305-293-5841)
Cooper Mathews, Director

A day school providing therapy and education to severely crippled children from ages 3 to 16 years. Serves deaf multiply handicapped if crippling condition is considered the major handicap, but must be ambulatory.

Services: Physical, occupational, and speech therapy are included in the School's program. Psychological and psychiatrical evaluations are made through the Orange County Learning Disability Center. The academic program ranges from nursery through 6th grade level.

NINA HARRIS SPECIAL EDUCATION CENTER
6000 70th Ave. W., Pinellas Park 33565
Ralph Cline, Principal

A special education day center for the education and rehabilitation of the physically handicapped and mentally retarded children of ages 4½ to 21 years. Multiple handicaps such as deaf-blind-retarded; cerebral palsied-retarded; deaf-cerebral palsied; retarded; deaf-retarded and other combinations are enrolled.

Services: The Center offers a comprehensive program of special education and vocational training to handicapped children unable to achieve a maximum degree of development without special facilities or programs. Evaluations, physical, occupational, and speech therapies, individual counseling are a part of the program. Other services include psychological and neurological testings, social casework and homebound program and parent counseling. Academic classes are conducted from preschool through high school.

HAPPINESS HOUSE REHABILITATION CENTER, INC.
401 Braden Ave., Sarasota 33580 (813-355-7637)
Mrs. Joan K. Grayson, Executive Director

An out-patient rehabilitation center for all physical handicaps of all ages.

Services: A medically oriented rehabilitation center offering complete services in physical and occupational therapies and speech and hearing. The Center provides medical evaluation and consultation, social service, therapy, and a regular academic program. A school for the physically handicapped of two counties is in operation. Classes range from preschool through high school.

GOODWILL INDUSTRIES – SUNCOAST
10596 Gandy Blvd., St. Petersburg 33733 (813-527-5715)
James J. Szenas, Exec. Vice Pres., and Frank S. Greenberg, Dir. of Rehab.

A residential and out-patient vocational rehabilitation facility and workshop for all physical and mental disabilities of 15 years of age and over.

Services: Clients are mainly referred to the facility from the Division of Vocational Rehabilitation. Psychiatric, psychological, work, and educational evaluations, personal adjustment services are included in the Center's program. Individual and parent counseling are available. Training program includes remedial education, prevocational evaluation and training, vocational training and sheltered workshop employment. The facility is currently engaged in an intensive effort with the State Division of Vocational Rehabilitation to develop services for severely handicapped deaf persons.

EASTER SEAL REHABILITATION CENTER
910 Myers Park Drive, Tallahassee 32301 (222-4465)
June McDaniel, Executive Director

A day center for the physical restoration of all types and combinations of disabilities for all age groups.

Services: The Center provides occupational, physical and speech therapies for all types of crippling disabilities. Work evaluations and counseling and some social services are available. The academic program is conducted by the public schools special education department in space provided by the Center.

GEORGIA

GEORGIA CENTER FOR MULTI-HANDICAPPED, DEAF-BLIND
2040 Ridgewood Drive, N.E., Atlanta (404-378-5421)
J. York Hudgins, Director

A residential, diagnostic, educational evaluation center for children from 3 to 6 years of age who are multi-handicapped primarily as a result of rubella (deaf-blind), who have had no formal educational opportunities.

Services: The Center was established to provide educational evaluation, a basic readiness program for long-term education, and placement in an appropriate learning environment. The objectives are to locate such deaf-blind children; to ascertain the educational and developmental potential of each child; to begin basic education towards developing this potential; to provide education for the parents; to evaluate the child's parents' potential and recommend placement. Children reside at the center during the evaluation period. Primary emphasis is on medical and psychoeducational comprehensive diagnostic evaluation; parent counseling and follow through to assist parents with placement of children in programs. The Center conducts a preschool program.

GRACEWOOD STATE SCHOOL AND HOSPITAL
Gracewood Drive, Gracewood 30812 (404-798-4374)
Norman B. Pursley, M.D., Superintendent

A state operated residential school and hospital for the mentally retarded of all ages. All multiple handicaps as an adjunct to mental retardation are admitted, however, the main emphasis of the institution is on mental retardation.

Services: An ungraded academic program of general academic and remedial courses, vocational evaluation, counseling, training, prevocational experience, and sheltered workshop is available based on necessity and ability of the individual. Psychological, psychiatric, audiological, and social services are provided, in addition to a therapeutic program for the residents.

TINSLEY SCHOOL OF SPECIAL EDUCATION
709 Pierce Ave., Macon 31204 (912-745-9695)
Mrs. Frances H. McNorrill, Cordinator of Special Education

A public day school of special education for hearing impaired or deaf and mentally retarded children from 5 years of age.

Services: Offers an academic program inspecial education on the primary level.

GEORGIA ACADEMY FOR THE BLIND
2895 Vineville Ave., Macon 31204 (912-745-9247)
Lee Jones, Superintendent

A state residential school for blind children from 5 to 21 years of age. The Academy is initiating a junit for deaf-blind (rubella) children with a planned opening of September, 1970 and will enroll a maximum of 12 students.

HAWAII

KAUIKEOLANI CHILDREN'S HOSPITAL – CHILD GUIDANCE CLINIC
226 N. Kuakini St., Honolulu 96817 (531-3511)
Ernest C. Gray, Jr., Medical Administrator

The Clinic is a department of the hospital and designed to provide psychological, psychiatric, social, speech and hearing services to children from the age of birth to 19 years. Both in-patients and out-patients services are provided.

Services: The Clinic provides physical evaluation and treatment, all medical, pediatric services with exception of (open heart) surgery, family counseling, physical rehabilitation by means of physical therapy services of all types. The Clinic and Hospital form a corporation with the Pacific Institute of Rehabilitation Medicine, especially in the services mentioned. Other services include audiological, psychiatric, psychological, educational, and social services.

ILLINOIS

ANNA STATE HOSPITAL – SPEECH AND HEARING CLINIC
1000 N. Main St., Anna 62906 (618-833-5161)
Mrs. Lee Ann Vicars, Director

A speech and hearing clinic within a state operated hospital for the mentally retarded of all ages. The clinic provides services for all children and adult inpatients at the Hospital and to outpatient children and adults within the lower 16 counties of the state, regardless of age, sex or mental disability.

Services: Diagnostic services include speech, language and voice evaluation, hearing and hearing aid evaluation, and audiometry. Speech language, and voice therapy, speechreading and/or auditory training, orientation to hearing aid usage, and counseling of patients and their families concerning speech, language and hearing problems are included in the treatment program. The services of the hospital for care, rehabilitation training, and educational programs are available.

ILLINOIS STATE PEDIATRIC INSTITUTE
1640 W. Roosevelt Rd., Chicago 60608 (341-8227)
Herbert J. Grossman, M.D., Director

A residential and out-patient center for research and training in mental retardation. Services children under 15 years of age who are mentally retarded with or without additional handicaps.

Services: Provides complete diagnostic evaluation, specialized treatment and training, psychological, genetic, psychiatric and parental counseling, and special educa-

tion. Other services include chromosome and genetics laboratory, behavioral modification program, speech evaluation and therapy, neurological assessments and therapy for convulsive disorders, and audiological services and training. There is an academic program and limited pre-vocational training.

SPALDING SCHOOL FOR CRIPPLED CHILDREN
1628 W. Washington, Chicago 60612 (312-829-2216)
Evelyn K. Albert, Principal

A day school for children with orthopedic and multiple involvements from ages 3 to 21 years. Additional handicaps of mental retardation and hearing impairments are accepted.

Services: An academic program of regular classroom work is carried out for 3 classrooms for multiply involved hearing impaired children (orthopedic-deaf) in elementary classes and one class in high school.

MICHAEL REESE HOSPITAL AND MEDICAL CENTER, DAVID T. SIEGEL INSTITUTE FOR COMMUNICATIVE DISORDERS
3030 So. Cottage Grove, Chicago 60616 (791-2903)
Laszlo K. Stein, Ph.D. Director

A diagnostic, therapy, and education for infants to adult age groups who have communicative disorders. The hearing impaired, or deaf multiply handicapped are enrolled in the program.

Services: Complete evaluation service, referral services, social work and psychiatric counseling are available. Psychological, psychiatrical, audiological, and social services are extensive. The Center's expansion into educational and remedial areas provides for development of an individualized program for each child. The program for the multiply handicapped deaf is under expansion for fall, 1970.

DIXON STATE SCHOOL
2600 N. Brinton Ave., Dixon 61021 (815-284-3311)
David Edelson, Superintendent

A state operated school for mentally retarded persons of all ages, with or without secondary handicaps are accepted. Occupational and physical therapy and academic program are among the services provided.

ELGIN STATE HOSPITAL – SPEECH AND HEARING DEPARTMENT
705 S. State St., Elgin 60120 (312-742-1040)
Dan F. McCoy, Chief

A state hospital for the mentally retarded from the age of 5 years and upward. All types of multiple handicaps and mentally ill are admitted.

Services: A complete program of medical, psycho-social, educational, and vocational training is provided for all patients. Services include psychological, psychiatrical, social services, parent counseling and a home-bound program. The speech and hearing department provides complete audiological, speech, language and hearing services. Academic classes in special education enrolls kindergarten age through high school.

COMMUNITY WELFARE ASSOCIATION FOR RETARDED CHILDREN
100 S. York St., Elmhurst 60126 (834-7800)
Ed Payton, Executive Director

A day center providing services for all retarded and many times multi-handicapped children from ages 3 to 5, who are excluded from public schools. The Center provides a work activities program for retarded individuals of age 16 and above.

Services: In addition to the day care program of preschool and work activities the Center provides psychological, speech and hearing, and physical therapy services to care for the needs of all retarded children, no matter what the handicapping conditions. The Center's purpose and goals are geared to the lower functioning retardate and multi-handicapped child.

A. L. BOWEN CHILDREN'S CENTER
P.O. Box 281, Harrisburg 62946 (253-7631)
Albert J. Shafter, Ph.D., Superintendent

A residential state institution for mentally retarded children and young adults from 6 to 25 years of age. Additional handicaps of deafness and/or hearing impairment are accepted.

Services: The Center provides a complete program of medical, psycho-social, educational, and vocational training for its residents. Other services include audiological, psychiatric, psychological and social services, parent counseling, and evaluations.

ELM CITY REHABILITATION CENTER
235 N. Main, Jacksonville 62650 (217-245-9505)
Betty Teaford, Executive Director

A non-profit community rehabilitation center serving ages of 16 years and up who are visually and hearing impaired; deaf-blind; hearing impaired or deaf and mentally retarded; intellectually and hearing impaired or deaf; emotionally disturbed as well as physically handicapped.

Services: Clients are referred to the Center from private and public agencies, self and family referral, and by private physicians. The Center attempts to evaluate what people can do in a work evaluation and pre-vocational adjustment training rehabilitation program through on-the-job work within the center and the community. Services provided include evaluation, graduated training comparable to industry, counseling, and hopeful placement in a regular job. Supervised housing, instruction in living in the community and some social adjustment assistance are also part of the part of the program. Staffings are conducted for each client twice monthly.

ELIM CHRISTIAN SCHOOL
13020 Central Ave., Palos Heights 60463 (312-389-0555)
John Kamp, Director

A private residential and day school for handicapped children from ages 2 to 18 years of age. The educable mentally handicapped, trainable mentally handicapped, visually, orthopedical, neurologically impaired plus deaf are enrolled.

Services: The school is sponsored by the Christian Reformed and Reformed Church of North America, and combines religion and education in providing training for multihandicapped children. Formal education (preschool through high school) is given as child's ability makes it possible. The school is limited to one class for the multiple handicapped which includes EMH, TMH academic training and physical therapy where needed. The class was begun in response to urgent request from referring agencies and parents.

FOUNDATION FOR CRIPPLED CHILDREN AND ADULTS OF ROCK ISLAND COUNTY
3808 - 8 Ave., Rock Island 61201 (309-786-2434)
Donald C. Davis, Director

An out-patient Center for all ages who are cerebral palsied with or without additional handicaps of deafness or hearing impairment.

Services: The Center provides complete therapeutic program for patients in addition to audiological training, social casework, prevocational evaluation and training. Parent counseling and a homebound program are available.

THE HOPE SCHOOL FOR BLIND MULTIPLE HANDICAPPED CHILDREN
50 Hazel Lane, Springfield 62703 (217-529-5537)
Maurice Tretakoff, Director

A private residential school for blind multiple handicapped children from 4 to 18 years of age. To be admitted to the school, a child must be blind and have such additional handicap as being mentally retarded, educationally subnormal, or emotionally disturbed, or he may have speech or hearing difficulty (but may not be deaf), orthopedic defects, but ambulatory, controlled epilepsy, or brain damage.

Services: The School operates under a family unit system, with a house mother in charge of each group. As a child advances in ability, he or she progresses to a family unit of higher training and education. The program is based on six areas of training: Self-help skills, social skills, motor skills, language skills, academics, and independent living skills. The School provides training and education, independence, security, and social adjustment for each child to the limit of the child's ability. Other services include psychological evaluation and treatment, social adjustment services, parent counseling, and an academic program.

INDIANA

MONROE COUNTY PRESCHOOL FOR THE HANDICAPPED
221 E. Sixth St., Bloomington 47401 (812-332-1514)
Mrs. Ann Brown, Director

A day school for the handicapped from ages 1½ years – there is no upper limit, but are presently teaching some 8 year old children. The school accepts any child who does not fit into other school programs.

Services: Periodic evaluations by medical advisory committee are scheduled for each child. Parent conferences and group meetings are regularly scheduled. The children are worked with on a one-to-one basis with individual programs set up for each child.

AUX CHANDELLES
1000 W. Hively Ave., Elkhart 46514 (219-522-1580)
Charles J. Seevers, Ph.D., Director

A comprehensive training center for the mentally retarded from ages 2 to 18 years. The mentally retarded who have hearing impairment or deafness are accepted.

Services: Audiological, psychiatric, psychological, and social services are provided in addition to an educational and vocational training program. Parent counseling and home program of nursing and social casework with follow-up are offered.

THE REHABILITATION CENTER
3701 Bellemeade Ave., Evansville 47715 (812-477-5381)
Spiro B. Mitsos, Ph.D., Executive Director

An outpatient rehabilitation center for the handicapped of all types and all ages.

Services: The Center provides medical, psycho-social, education, and vocational services to handicapped children and adults. Psychological, social, therapeutic and parent counseling are available. Other services include medical evaluation, physical, occupational, recreational, speech and hearing therapies, prosthetics, and orthotics. A preschool is conducted, but older children are referred to other special education facilities.

TRADE WINDS REHABILITATION CENTER, INC.
5901 W. Seventh Ave., Gary 46406 (949-4000)
Theodore Dombrowski, Executive Director

A rehabilitation center for the handicapped of all ages. Brain damaged-deaf or hard of hearing; educable retarded-deaf or hard of hearing; emotionally disturbed-deaf or hard of hearing persons are also served. There is a deaf education program for ages 0 to 4 years.

Services: The Center provides educational, audiological, and psychologicial evaluations and testings. Services include physical and occupational therapies, complete counseling services, and homebound program consisting of physical therapy, visiting nurse, and home stimulation and education program to be carried out by parents.

INDIANAPOLIS GOODWILL INDUSTRIES
1635 W. Michigan St., Indianapolis 46222 (317-636-2541)
Alan M. McNeil, Executive Director

A rehabilitation workshop serving ages 16 years and up who have handicaps of mental retardation, cerebral palsy, epilepsy, vision and hearing impairments and in various combinations of handicaps.

Services: The Center provides medical evaluation and supervision to protect clients against undue exposure to physical stress and to determing physical tolerance to work activity. In addition to a program of basic and general education, vocational training, and sheltered workshop employment, psychological and counseling services are available.

CROSSROADS REHABILITATION CENTER
3242 Sutherland Ave., Indianapolis 46226 (317-924-3251)
Roy E. Patton, Director

A day center providing rehabilitation services to the handicapped of 16 years of age and over. All types of handicaps and combinations, except deaf-blind, are accepted.

Services: Emphasis is on vocational and therapeutic services. Evaluation, speech, physical, and occupational therapies, prosthetics and social casework are a part of the program. In addition to complete prevocational and vocational evaluation and training, there is sheltered workshop employment. Only remedial education instruction is offered.

IOWA

RIVER HILLS
2700 Grand Blvd., Cedar Falls 50613 (319-268-0487)
Larry McDonald, Principal

A day care community facility for dependent retarded children and adults from ages of 3 years and upward. The facility serves all multiple handicaps if mental retardation is involved.

Services: Activities of daily living are stressed throughout the curriculum. Emphasis is placed upon the following areas: self-help skills, physical growth and development, social experience, community awareness, communication skills, work habits, attitudes, and skills, and leisure time activities. The Diagnostic Clinic is housed at River Hills and consists of a director, nurse, educational consultant, speech and hearing clinician, psychologist, and social caseworker. In the area of social adjustment and psychological treatment, follow-up is an on-going part of the total program. Education and academic needs and pre-vocational skills are a continuing part of the program. The multiple handicapped students are provided with the services of itinerant teachers of the visually handicapped, and for the hearing handicapped, and a physical therapist who works directly with the students.

SMOUSE OPPORTUNITY SCHOOL
2800 Center St., Des Moines 50312 (515-277-1710)
R. W. Langerak, Ed.D., Principal

A public day school for physically handicapped children 5 through 15 years of age. Children with multiple involvement of cerebral palsy, mental retardation, hearing and visual impairment, but not deaf-blind, are enrolled.

Services: The School is essentially an elementary program (educational) for various handicaps serving the school district and county. The present enrollment of 18 preschoolers fall into the rubella age grouping. Nearly all are primarily affected by deafness and a few are more severely involved. The academic program is the public school curriculum plus an ungraded track for slower moving pupils. Other services include physical and occupational therapies and family counseling. Community agencies provide additional services not available at the school.

GLENWOOD STATE HOSPITAL – SCHOOL
711 So. Vine, Glenwood 51534 (712-527-4811)
William W. Campbell, Director

A state operated residential and out-patient institution for the mentally retarded and all associated physical impairments of all ages. The institution has a limited deaf-retarded program.

Services: The institution provides a complete program of medical, psycho-social, educational, and vocational services for all patients. Evaluations, testings, treatment, therapies and counseling services are included. There is an academic program for preschool children and elementary level. Pre-vocational and vocational training in all phases are provided.

KANSAS

UNIVERSITY OF KANSAS MEDICAL CENTER
39th and Rainbow Blvd., Kansas City 66103

Cerebral Palsy Clinic, W. David Francisco, M.D., Dir.
Children's Rehabilitation Unit, Herbert C. Miller, M.D., Dir.
Child Study Unit, George Frankl, M.D., Dir.
Dept. of Pediatrics, Herbert C. Miller, M.D., Chrmn.
L. B. Spake Dept. of Hearing and Speech, June Miller, Ed.D., Dir.
Pediatric Child Psychiatry Clinic, Paul C. Laybourne, M.D., Dir.
Birth Defects Center, Wilks O. Hiatt, M.D., Dir., Amb. Svcs.

The Medical Center, although primarily a teaching institution for students, physicians, and health personnel, operates a number of clinics which specialize in child care, particularly the child with handicaps. The Rehabilitation Unit and Cerebral Palsy Clinic provide treatment and therapy for physically handicapped children and those with additional handicaps such as mental retardation, deafness, and speech defects. The Speech and Hearing Department operates a preschool for deaf children, hearing tests and rehabilitation, and speech evaluation and therapy. The Pediatrics Department provides diagnostic and medical services. The Child Study Unit and Child Psychiatry Clinic are psychological testing evaluation clinics. The Birth Defects Center evaluates the child medically and follows with any indicated consults through the Medical Center.

LAKEMARY CENTER, INC.
100 Lakemary Drive, Paola 66071 (913-294-4361)
Sister Patrice Schmitz, Ph.D., President

A private, non-demominational, residential and day school for trainable mentally retarded children from 3 to 16 years of age. Children with additional handicaps of hearing impairment are also accepted.

Services: The Center provides the special child with a family living type of experiences and is given the care and opportunities for a fuller life through a program designed toward self-sufficiency. The program includes curriculum, physical education, recreation, social living, and child direction on a 24 hour a day schedule. The training schedule includes programs specific to individual areas of development. The staff is composed of Ursuline Sisters and lay personnel. Medical, social, psy-

chological, and educational evaluations, vocational and psychological counseling services are provided. A physical restoration program of physical, medical, and occupational therapies is included in the school care program. Inquiries should be directed to the Admissions Office.

PARSONS STATE HOSPITAL AND TRAINING CENTER
Box 738, Parsons 67357 (316-421-6550)
Howard Bair, M.D., Superintendent

A state operated residential training center for retarded children 6 to 21 years of age. Children with additional handicaps of deafness and/or hearing impairment are also accepted.

Services: The hospital and training center offer complete care, treatment and training programs for mentally retarded children with or without secondary handicaps. Psychological counseling and evaluation, occupational, physical, and speech therapies, parent counseling, individual and group therapy are included in the total program. Services include an educational program of ungraded classes and remedial courses, vocational training, placement, and a sheltered workshop.

THE MENNINGER FOUNDATION
Box 829, Topeka 66601 (913-234-9566)
Robert Switzer, M.D., Director

An in- and out-patient institution for mentally retarded from infancy to adults. All combinations of additional handicaps, except orthopedic, are accepted.

Services: The Foundation has a professional staff representing medicine, psychology, social work, and speech pathology-audiology disciplines. Emphasis is on the medical, psycho-social evaluation and treatment of patients. Home program, counseling and referral services are also provided.

KENTUCKY

COMMISSION FOR HANDICAPPED CHILDREN
1405 East Burnett Ave., Louisville 40217 (502-635-5291)
Margaret A. Limper, M.D., Medical Director

A state agency for medical diagnosis, treatment and follow-up care of the physically handicapped. An out-patient clinic serving children and young adults from age of birth to 21 years. Visual and hearing problems, heart, seizures, orthopedic, cerebral palsy, cleft lip and palate, are served. Mental retardation managed if associated with a physical handicap.

Services: Complete medical, psycho-social program of services are available. Counseling, evaluations and speech therapy, and audiological services are offered. The Commisson has identified 45 children with the rubella syndrome currently enrolled in the agency's program.

WEST KY. EASTER SEAL CENTER FOR HANDICAPPED CHILDREN AND ADULTS
2229 Mildred St., Paducah 42001 (502-444-9687)
Palmer Hughes, Administrator

An out-patient rehabilitation center and academic facility for physically and mentally handicapped children and adults from ages of birth to 21 years of age. Any type of handicap except blindness can be adequately served.

Services: Speech and physical therapy, classroom facilities for all types of handicaps and sheltered workshop are a continuing program of the Center. Audiological evaluation, speech, hearing and language training, and intelligence testing services are available.

LOUISIANA

SOUTHEASTERN COLLEGE, SPECIAL EDUCATION CLINIC
Box 879, College Station, Hammond 70401 (504-345-1400)
John E. Robinson, Ph.D., Director

A diagnostic and evaluation clinic for learning problems for school age children.

Services: Southeastern College operates the Special Education Clinic to diagnose and evaluate the causes of learning problems of school age children. Services in audiological, psychiatrical, psychological, social adjustment, educational areas are primarily diagnostic and evaluative with appropriate consultation and follow-up in referral to other agencies for specific treatment. Educational evaluation of present level of achievement and assistance in planning an educational program is also provided.

UNIV. OF SOUTHWESTERN LOUISIANA, SPECIAL EDUCATION CENTER
Box 515, Lafayette 70501 (233-3850, ext. 226)
Dr. Charles F. Faulk, Director

The Special Education Center of the University as a diagnostic and teacher education center provides diagnostic and evaluative service in all areas of exceptionabilities for children through young adults from age 1 through 21 years.

Services: The Center provides diagnostic and evaluative services in audiological, psychological, social adjustment, and educational areas to determine educational growth and to recommend remediation. Social casework and follow-up conferences with parents are offered. The Center is a teacher education unit for the University.

NORTHEAST LOUISIANA STATE COLLEGE – SPECIAL EDUCATION CENTER
Monroe 71201 (372-3143)
Levelle Haynes, Ed.D., Director

A state college special education center providing evaluative services and educational orientation for school age children with all types of handicaps.

Services: Educational evaluation for exceptional children is provided in all areas of audiological, psychological, social adjustment, and educational areas. Recommendations and referral for services and interpretation of findings to parents are also provided.

PINECREST STATE SCHOOL
Box 191, Pineville 71360
Coates Stuckey, Superintendent

A state residential center for the retarded of all ages. Retarded with visual impairments, hearing impairments, retarded-deaf, blind, spasticity, are also admitted. Residence in the state is required for admission.

Services: All necessary services for in-patients are provided, these include medical evaluation and management, physical, occupational, and speech therapies, nursing care, prosthetic and ortho clinics. A complete work-up evaluation is made of each patient at time of admission. Other services include social, psychological, audiological services, and counseling. An academic program is available through fourth grade level. Vocational training and sheltered workshop employment are provided.

NICHOLLS STATE COLLEGE – SPECIAL EDUCATION CENTER
Thibodaux 70301 (504-446-8111, ext. 221)
John W. Schifani, Ed.D., Director

A special education center at a state college providing diagnostic and evaluative services for exceptional children of school age (6 to 20 years). Handicaps of deaf, hard of hearing, partially blind, mentally retarded, crippled, and learning disabilities, or combinations thereof, are eligible.

Services: Services in audiological, psychological, social adjustment, and educational areas are primarily diagnostic and evaluative with consultation and referral to appropriate agencies for treatment. Parent counseling and remedial education are included in the program of services.

MAINE

CHILDRENS OPPORTUNITY CENTER
29 Chamberlain St., Brewer 04112 (989-2533)
Mrs. Marilyn L. McInnis, Director

A day school for mentally retarded children from 5 to 21 years of age. Additional handicaps of visual and auditory problems, speech problems, and emotional disturbances are accepted.

Services: Preschool, primary, intermediate and advanced groups are taught by certified special education teachers. Prevocational training in work skills, habits and attitudes is available. Evaluations and counseling are provided by local counseling center. Speech and hearing service is available through local community agency.

PINELAND HOSPITAL AND TRAINING CENTER
Box C, Pownal 04069 (207-688-4811)
Peter W. Bowman, M.D., Director; Mrs. Louise Carolan, Dir., Sp. & Hearing Clinic.

A state institution for the mentally retarded of all ages. Additional handicaps of deafness, or hearing impairment are admitted.

Services: The hospital provides complete care, treatment, and rehabilitation for the mentally retarded. In addition to the regular services, a speech and hearing clinic provides audiological services and auditory training, and speech reading. There are academic classes for the deaf and hard of hearing retardates.

MARYLAND

THE JOHN F. KENNEDY INSTITUTE
707 N. Broadway, Baltimore 21205 (301-955-4243)
A. R. Hartgrove, Administrator

A residential and out-patient center for the care and treatment of the mentally and physically handicapped child, 1 to 10 years old.

Services: The Institute is designed to provide a multidiscipline approach in the care and treatment of the mentally and physically handicapped child. Complete facilities of the Johns Hopkins Medical Institute are available. The academic program is ungraded levels for students 1 to 10 years.

THE MARYLAND SCHOOL FOR THE BLIND
3051 Taylor Ave., Baltimore 21236 (301-444-5000)
Herbert J. Wolfe, Superintendent

A residential school for blind children from ages 5 to 21 years. Children who are blind and hearing impaired, or blind and mentally retarded are also admitted. Residents of Maryland are state-aided. Students from Delaware, New Jersey, and District of Columbia are accepted on tuition basis.

Services: The School provides an academic program from kindergarten through 12th grade. Educational and vocational counseling, speech and hearing testing, ophthalmological examinations and psychological testing are provided. Home visitor coordinates home and school. Medical, social and vocational rehabilitation services and auditory training are obtained through local hospitals, clinics and state agencies. A 5-week summer program is held each year for multiply handicapped children.

SEARCHLIGHT TRAINING CENTER
528 Wabash Ave., Baltimore 21215 (301-664-6836)
Elizabeth S. Haynie, Director

A day school for the severely mentally retarded from 6 to 21 years of age. Additional handicaps of deafness, blindness, epilepsy, and cerebral palsy are enrolled. Admission requirements are that the child must be severely retarded at trainable level, ambulatory, and ineligible for any other educational program for the retarded.

Services: The Center is accredited by the Maryland State Department of Education. The academic program is based on academic year, September to June and provides a training program to meet the needs of the individual who is not eligible for public school programs. Training is aimed at developing full pupil potential based on each child's capabilities and prepares the child to live at home, in the community, or in an institution. Subjects include self care, language development, simple crafts, large and small muscle activities, health and safety education, sensory training, music and rhythm activities, field trips and daily play periods, and work-study programs. The staff includes a director, social worker, one specialized teacher and an assistant to every 10 to 15 students.

ROSEWOOD STATE HOSPITAL
Owings Mills 21117 (301-363-0300)
T. Glyne Williams, M.D., Superintendent

A state hospital for the mentally retarded of all ages. The mentally retarded-hearing impaired are also admitted but mental retardation must be primary handicap. Only state residents are admitted.
Services: Evaluation, treatment, custodial care, vocational, and academic programs are provided for the mentally retarded. Some service (training, etc.) for the retarded-hearing impaired is given as well as to other areas of handicaps.

EASTER SEAL TREATMENT CENTER
1000 Twinbrook Parkway, Rockville 20851 (424-5200)

A diagnostic center and school for the hearing handicapped of all ages. The visually and hearing impaired; hearing impaired or deaf and mentally retarded; intellectually and hearing impaired or deaf are accepted.

Services: Diagnostic audiometric evaluations of all types for all ages are available. There is a parent program of constant guidance and counseling. In addition to audiological services and training, there is a preschool educational program which is daily winter and summer.

MASSACHUSETTS

CEREBRAL PALSY CLINIC
374 Rockdale Ave., New Bedford 02740 (617-994-9273)
Mrs. A. E. Raposa, Coordinator

An out-patient treatment and training center for the cerebral palsied from 1 to 30 years of age. Provides assistance to various combinations of visual, hearing, muscular, neurological, cerebral palsy, retardation, autistic handicaps.

Services: The Clinic accepts any child who needs assistance and treatment and who has no other facility available to him. Emphasis is on cerebral palsy, but psychological, and psychiatric evaluations, counseling, occupational and physical therapy, social casework, and counseling services are provided for all who need them. Audiological services, parent counseling, and referral services are available. The educational program provides academic readiness evaluation and pre-school training.

PAUL A. DEVER STATE SCHOOL
P. O. Box 631, Taunton, 20780
Anne H. Lewis, M.D., Superintendent

A residential institution for the mentally retarded of all ages. Diagnostic services are provided for out-patients.

Services: Complete hospital services are provided for the institution residents. Programs for deaf and multiply handicapped mentally retarded are in early stages of development.

WATERTOWN *(See Area Centers for Services to Deaf-Blind Children)*

MICHIGAN

LANSING *(See Area Centers for Services to Deaf-Blind Children)*

MUNSON MEDICAL CENTER
Traverse City 48684 (947-6140, ext. 294)
Frank Moss, Administrator

A community and area medical center providing complete hospital services to all ages. There are no restrictons or specializations of services.

Services: In addition to the complete program of services provided by the hospital, there is a Department of Rehabilitation Medicine providing speech pathology and audiology, physical and occupational therapy, social service, and home care nursing. Also located within the medical center complex is the Michigan Crippled Children's Orthopedic Clinic, and Northwest Michigan Child Guidance Clinic. The Speech and Hearing Center of the medical center provides a complete clinical program in speech, language and hearing, and preschool program in language development.

MINNESOTA

MANKATO REHABILITATION CENTER, INC.
309 Holly Lane, Mankato 56001 (507-345-4507)
Arne J. Berg, Executive Director

A rehabilitation center for the disabled from ages 16 and above. Speech therapy services are available to all ages. The intellectually and hearing impaired client is enrolled.

Services: The Center concentrates on vocational training and services. Services include evaluation of work skills, work adjustment, remedial studies and speech therapy. Additional vocational services include work adjustment training, long-term sheltered workshop, and an adult activity program for the more severely disabled. Counseling and job placement services are available.

UNIVERSITY OF MINNESOTA – CHILDREN'S REHABILITATION CENTER
412 Union St., S.E., Minneapolis 55455 (612-373-0960)
Frederick J. Kottke, M.D., Ph.D., Director

The Children's Rehabilitation Center is located within the Department of Physical Medicine and Rehabilitation at the University. Diagnostic and evaluative services and treatment are provided to handicapped children up to the age of 16 years. Multiple handicaps such as deaf-blind or hearing-vision impaired, and/or intellectually impaired, and/or motor impaired are treated.

Services: Evaluation and initial phases of training are carried out with the team effort of all disciplines, as well as special education teachers in the direct treatment team. In addition, audiologic and ophthalmologic evaluation and treatment are available on consultation as are any of the medical specialities when indicated. Evaluation is carried out by the use of formal or informal psychological evaluation with modification of formal testing procedures as required by a particular problem. Therapeutic trials for learning specified tasks and behaviors are carried out for the purpose of evaluation and preparation for a subsequent receiving facility. All aspects of medical evaluation and treatment, physical, therapy, occupational therapy, nursing care are available. Audiological, psychiatric, psychological services are available on consultation or with direct participation of treatment team. Social adjustment, evaluation and management are carried out by all disciplines. Some follow-up is maintained or referral to appropriate facilities for prolonged management. Educational evaluation and counseling are carried out and initial phases of remedial education begun. When

baseline status has been established, and minimal behavior reached for appropriate follow-up placement, the child is referred to an educational facility as available in the community. At the primary grade level, teachers have special training in learning problems, special educational procedures for specific deficits of blindness, deafness or impairment as well as orthopedic and medical handicaps. Above this level, teachers have training in medical handicaps. Pre-vocational evaluation and training are available for adults and adolescents. Referral can be made to sheltered workshop or specialized training centers in the community. Training for home care is carried out in the institution during the treatment period. The Center is residential only during treatment and evaluation phases.

TILDEN – HEARING IMPAIRED PRESCHOOL – ST. PAUL SCHOOLS
1521 Albany, St. Paul 55108 (612-646-8745)
Mrs. Janet E. Proehl, Special Education Consultant

A public day school for hearing impaired children from birth to 6 years. Children with additional handicaps of vision, balance, heart defect, hyperkenetic, spasticity, mental retardation, diabetic, emotional problems, perceptual motor problems, and culturally disadvantaged, are enrolled.

Services: An interdisciplinary staff, consultants, community and school resources provide a program of differential diagnosis, evaluation and testing, and educational program. There are parent counseling sessions to teach parents how to work with their children, and a parent participation program.

CRIPPLED CHILDREN'S SCHOOL (INDEPENDENT SCHOOL DISTRICT 518)
Knollwood Drive, R.R. 2, Worthington 56187 (507-372-2171)
Norma J. Johansen, Principal

A public residential school for neuro-orthopedically handicapped children of Minnesota from ages 4 to 21 years of age of educable mental ability. Primarily for cerebral palsy, however, additional handicaps of hearing impairment or deafness, are accepted.

Services: The School operates on a regular nine month school term. The focus is on the educational program which includes speech, occupational, and physical therapy. Individual programs are worked out for multiple handicapped students with time for occupational and physical therapies. Pre-enrollment medical evaluation is required. Academic classes range from kindergarten through 8th grade. The staff includes a teacher trained in the education of the deaf.

MISSISSIPPI

SCHOOL FOR CHILDREN WITH LANGUAGE DISORDERS – UNIV. OF SO. MISSISSIPPI
Box 137, South Station, Hattiesburg 39401 (601-266-7320)
Etoile DuBard, Ph.D., Director and Assoc. Prof. Speech and Hearing Sciences

A day school operated by the Speech and Hearing Center for the severely hard of hearing and aphasic from 4 to 12 years of age.

Services: The goal of the School is to provide language, speech, and educational habilitation to enable the children to enter regular or ungraded classes in regular schools by age 12 at 4th grade level. Audiological and psychological services are available through the University. Social service and parent counseling are available.

MISSISSIPPI HOSPITAL-SCHOOL FOR CEREBRAL PALSY
777 Lakeland Drive, Jackson 39216 (601-366-6442)
Thomas B. Dungan, Director

A residential treatment and training center for crippled children from 2 to 16 years of age. Crippled children with additional handicap of deafness, or hearing impairment are accepted.

Services: Treatment program includes medical evaluation, physical, occupational and speech therapy and nursing care. Audiological, psychological, and social services are available. The academic program provides classes from kindergarten through high school.

NORTHEAST REGIONAL REHABILITATION CENTER, INC.
615 Pegram Drive, Tupelo 38801 (601-842-1891)
John A. Rasberry, Executive Director

A regional rehabilitation center for 16 counties serving the handicapped from 2 to 70 years of age. Mentally retarded deaf, deaf and physically handicapped, and intellectually and hearing impaired, are accepted. Deaf-blind clients are referred to Peabody College Evaluation Unit and to the Alabama Institute for the Deaf and the Blind (Deaf-Blind Unit) at Talladega for academic and vocational training.

Services: Case work-up for each client is provided by the Regional Child Development Clinic. Services include audiological, psychiatrical, psychological, and social adjustment programs. There are physical therapy and occupational therapy departments, and prosthetic clinic to provide a program of physical restoration. The Center includes a Vocational Rehabilitation Evaluation and Training Center and Sheltered Workshop. A Vocational Education Training Center is in early stages of construction. The academic program includes remedial education and preschool for deaf-mentally retarded.

MISSOURI

UNITED CEREBRAL PALSY ASSN. OF GREATER KANSAS CITY
417 E. 13th St., Kansas City 64106 (816-852-4590)
Ed Minter, Executive Director

A day care developmental center for children with cerebral dysfunctions from 3 to 16 years of age. Children who are severely multiply handicapped are served.
Services: The Center provides a psycho-social and educational program in the care and development of children with cerebral palsy and the severely multiply handicapped. Audiological, psychiatric, and social services, and parent counseling are available at the Center or by referral. The Association operates 5 day care-developmental centers in the Kansas City area for severely-multiply handicapped youngsters of ages 3 to 16.

CRIPPLED CHILDREN'S NURSERY SCHOOL
3914 Washington, Kansas City 64111 (816-931-6388)
Dorothy Morris, Executive Director

A day pre-school and treatment center for disabled children from 2 to 7 years of age. Additional handicaps of mental retardation, cardiac, deafness, etc. are accepted.

Services: A comprehensive pre-academic nursery school and treatment center for physically disabled children that has been able to include the rubella syndrome children with only the addition of a teacher of the deaf. Children are evaluated by the Child Development Clinic involving medical, speech and hearing, psychological, visiting nurse, social work and occupational therapy work-up. Services include occupational and physical therapy, preschool and deaf education program. Parent counseling is available as well as a home program with all therapists working with parents in specific areas for which they are responsible.

MARSHALL STATE SCHOOL AND HOSPITAL
Lincoln and Slater Sts., Marshall 65340 (816-886-2202)
William B. Bradley, M.D., Superintendent

A state residential institution for the mentally retarded of all ages with or without additional impairments.

Services: An intake evaluation is made of all patients. Treatment is provided by a multidisciplinary approach by six teams. General counseling is provided for all patients, but specially directed counseling for all vocational rehabilitation clients. A special education program is available for all but the deaf at present. Plans are being made for classes in deaf education. A program of pre-vocational and vocational training is offered.

MONTANA

BOULDER RIVER SCHOOL AND HOSPITAL
Boulder 59632 (225-3311)

A state residential school and hospital for the mentally retarded of all ages. The mentally retarded-deaf and mentally retarded-blind are admitted.

Services: The school is unique in that it is a center that works with the deaf who are retarded and has a school program for the blind. The center provides a medical, psycho-social, educational, and vocational program. Physical and speech therapy, audiological training, psychological, psychiatrical, and social services are available. The educational program provides nursery school and academic classes for the profound, severe, trainable, and educable residents. A home living group (halfway house) to stimulate home situations is being initiated. Pre-vocational evaluation and training and vocational programs are available.

NEBRASKA

BEATRICE STATE HOME
3000 Lincoln, Beatrice 68310 (402-223-2302)
M. E. Wyant, Superintendent

A state residential institution for the mentally retarded of all ages. Accepts patients who are mentally retarded with associated handicaps, including hearing impairment.

Services: At the present time only audiological evaluation and limited training services are available for acoustically handicapped mentally retarded residents. Otherwise a full complement of medical, social, psychological, and educational services are offered for mentally retarded residents.

VOCATIONAL SERVICE CENTER
84th and Adams, Lincoln 68507 (402-434-8325)
Kenneth Maas, Director

A vocational training center for the mentally retarded from 15 to 52 years of age. Also included in the program are deaf-mentally retarded, deaf-cerebral palsy, and deaf-epileptic clients.

Services: The Center's program is divided into 3 areas of training: Evaluation and vocational training which includes evaluation period of 6 to 18 months and vocational training of 12 to 24 months and consists of instruction in the area of industrial social skills. Social skills training includes personal living and community living adjustments. The third area is a work activities center which is divided into human development and pre-vocational training.

CHILDREN'S REHABILITATION INSTITUTE – UNIV. OF NEBRASKA MEDICAL CENTER
444 So. 44th St., Omaha 68105 (402-536-4730)
Edward LaCrosse, Ed.D. Assoc. Director of Early Childhood Program

The Institute as associated with the university, provides for the care and treatment of handicapped children from the age of birth to 8 years. Visual impairments, orthopedic, and deaf-blind children are accepted. Residential and out-patient care are provided.

Services: The Center provides a comprehensive early childhood program of medical, psycho-social, and educational services. A home training program of individual instruction moving to small groups one a week and to daily groups is available. Academic classes are held for preschool and primary age groups.

NEW HAMPSHIRE

CROTCHED MOUNTAIN SCHOOL FOR THE DEAF
Greenfield 03047 (603-547-3311)
Robert T. Kennedy, Superintendent

A private residential school for the deaf for children 1 through 17 years of age. Children who are additionally handicapped by cerebral palsy or other orthopedic disabilities are enrolled. The School is one of the four centers affiliated with the Crotched Mountain Foundation, which is a diagnostic treatment, education, research center for handicapped children and adults.

Services: Through its affiliation with the other facilities of the Foundation, the School for the Deaf offers a very complete roster of medical and therapeutic services. Psycho-Social Services are available for the school population. In addition their services consist of individual and group counseling of the families with children in the Early Language Stimulation Program. A full academic program from nursery school through the eighth grade. The Foundation's Vocational Services Department provides evaluation and training for the students. Nursing care for those who require this service is provided by the Children's Ward at the Rehabilitation Center.

LACONIA STATE SCHOOL AND TRAINING CENTER
Box 370, Laconia 03246 (603-524-5373)
Arthur E. Toll, Superintendent

A state residential school for the mentally retarded of all ages. Additional handicaps of deafness and/or hearing impairment, epilepsy, cerebral palsy, and visual impairment are admitted.

Services: Services can be offered to only those with an IQ below 70. Comprehensive evaluations, audiological, psychiatrical, psychological, and social services, and counseling are provided. There is an educational program of academic classes through the fourth grade level. Pre-vocational and vocational evaluation and training in all phases are available. Parent counseling and a limited home program are included in the institution's program of services.

NEW JERSEY

UNITED CEREBRAL PALSY OF MIDDLESEX COUNTY
Roosevelt Park, Edison 08817 (201-549-5580)
Herbert Ulmer, Executive Director

A day care treatment center and school for cerebral palsied children and young adults from 1 to 20 years of age. Additional handicaps of hearing impairment, visual impairments, retardation. Physical handicaps, and neurological impairments, are admitted.

Services: The Center provides medical evaluation, speech, occupational, and physical therapy, and home instruction to parents. The academic program provides special education in their nursery school, preschool, kindergarten, and public school to eighth grade.

STATE COLONY AT NEW LISBON
New Lisbon 08064
Francis W. Russell, Superintendent

A state residential training school for the mentally retarded from the age of 5 and upward, no maximum age. Retardates who are epileptic, orthopedically handicapped, visually handicapped, hearing impaired, and others, are admitted. Program is being expanded to include speech improvement and development and auditory training.

Services: Patients are evaluated by a multidisciplinary team and decisions of a program usually are made by Clinic Committee consisting of psychologist, social worker, physician, Director of Education, and Director of Cottage Life. Cases are seen as scheduled re-evaluations, and as special referrals. Comprehensive medical care, training, therapy, plus referral to specialists are provided. The school deals with all ability levels from dull-normal to profoundly retarded. An extensive application of behavior modification techniques is planned. Pre-vocational and vocational training include school programs, work under cooperating outside agencies and work experience within the Colony.

THE MATHENY SCHOOL
Peapack 07977 (201-234-0011)
Walter D. Matheny, Director

A residential school and special non-profit hospital for the cerebral palsied from 2 to 18 years of age. The cerebral palsied-deaf and cerebral palsied-blind are also accepted.

Services: A residential treatment center for cerebral palsied children and evaluation and planning center for children with neuromuscular disorders. A complete program of psychological, audiological, speech pathology services, and counseling is also available. The educational program provides academic classes in preschool through the 10th grade.

NORTH JERSEY TRAINING SCHOOL
P.O. Box 169, Totowa 07511 (201-256-1700)
Dennis J. Buttimore, Ph.D., Superintendent

A state residential center for the mentally retarded and all types of multiple handicaps associated with retardation. Male patients from the age of 1 month to five years; and female patients from 1 month to the aged are admitted.

Services: The School provides orientation and multidisciplinary evaluation upon admission and at regularly scheduled intervals thereafter for females over 5 years of age. The Center provides a comprehensive residential and limited education and vocational services. There is a comprehensive speech program for all ages.

CHILD STUDY INSTITUTE, EDUCATIONAL RESOURCE CENTER, NEWARK STATE COLLEGE
Morris Ave., Union 07083 (201-289-4500)
Arthur Jonas, Ed.D., Director

A public day school for deaf-blind children from 5 to 10 years of age. Severely hearing impaired are also enrolled.

Services: In addition to an academic program, the school provides audiological services, psychiatric and psychological diagnosis and evaluation, social services, and parent counseling through the Child Evaluation Team.

AMERICAN INSTITUTE FOR MENTAL STUDIES, TRAINING SCHOOL UNIT
Landis and Main Aves., Vineland 08360 (609-691-0021)
Walter Jacob, Ph.D., Director and Edson B. Powell, Superintendent

A residential demonstration and research center admits students whose primary handicap is mental retardation. Those with accompanying handicaps such as emotional disturbances, cerebral palsy, epilepsy, brain damage, speech and hearing defects are also accepted. The retarded from 4 to 50 years of age are admitted.

Services: Patients may be admitted for an observation and diagnosis period of approximately 3 months where medical, psychological, and educational evaluations are made. The general training period provides academic and vocational instruction from pre-primary level up. Out-patient diagnosis, a summer speech and hearing evaluation, and recreational program are available.

CHILDREN'S SPECIALIZED HOSPITAL
New Providence Road, Westfield-Mountainside 07091 (201-233-3720)
E. Milton Staub, M.D., Director of Medical Services and Education

A medical rehabilitation center for those handicapped by orthopaedic, CNS disorders, cerebral palsy, trauma sequelae, blindness and hearing impairments, either singly or multiply. Out-patients of all ages are served. In-patients from infancy to 20 years of age are admitted.

Services: The hospital provides a medical and educational program for patients. Services include psychiatrical, psychological evaluations, social services, medical evaluation and management, physical, occupational, and speech therapy, nursing care, speech and hearing services, bracing, and orthotic clinic. Parent counseling and home care program are available. The educational program includes special classes to 3rd grade for in-patients. Out-patient classes are held in cooperation with the County Superintendent of Schools.

NEW MEXICO

SPECIAL EDUCATION CENTER
722 Silver, S.E., Albuquerque
Mrs. J. P. Reed, Psychologist

A day care facility-school for the multiple handicaps from preschool through young adult.

Services: Comprehensive evaluation and testing in psychiatrical, psychological, and social adjustment areas, plus two-week observation period are made on all students. The academic program covers readiness period through grade 12.

THE CHILD DEVELOPMENT CENTER
105 East Marcy, Santa Fe 87501 (505-827-2338)
Dina Bayer, M.D., Medical Director

An out-patient evaluation center for the mentally retarded for children who are residents of the state and from the age of birth to 10 years. Athough primarily operating for the mentally retarded the Center takes children retarded in any phase of development, many of whom have hearing and/or visual handicaps. Any child registered with Center by 10 years of age can continue to receive services until the age of 21.

Services: The Center offers diagnostic study and evaluation of the child, consisting of a thorough study of physical, psychological, and social factors. Parent counseling and casework services, public health nurse assistance in home care and training, appropriate referrals and follow-up, are included in the program.

NEW YORK

BRONX *(See Area Centers for Services to Deaf-Blind Children)*

CHILDREN'S REHABILITATION CENTER
936 Delaware Ave., Buffalo 14209 (883-5810)
Robert Warner, M.D., Medical Director

A comprehensive rehabilitation center serving the children of Western New York and surrounding area. The Children's Rehabilitation Center is a unit of the Children's Hospital from which source it is administered. The Center functions as an evaluation and treatment center for children with cerebral palsy, neuromuscular handicaps,

epilepsy, and mental retardation. The Buffalo Diagnostic and Counselling Study Center for Retarded Children is a part of the Center complex. Children from the age of birth through 21 years are served on an out-patient basis.

Services: The Center was set up to embody the diagnosis, evaluation, treatment, and follow up of multihandicapped children, particularly illustrated by the rubella syndrome. Although there are separate clinics for cerebral palsy, neuromuscular, juvenile amputees, seizures, and mental retardation, it was felt from the very beginning that the child with multiple handicaps was in need of the same type of services and parents were in need of the same type of counseling and casework. Rubella cases and other multiply handicapped children have been accepted from the very onset, and gradually evolved a sixth clinic, which has been labelled Rehab Diagnostic, particularly to include rubella and other multiply handicapped children who did not fit readily into one of the 5 categories above, but who were never refused because they did not fall into one of those categories. Close cooperation is maintained with the Speech and Hearing Clinic, which provides speech, language, and hearing evaluations and treatment for the Center. Five classes at public schools are in the Center, 3 of the classes are for "brain damaged" children.

MENTAL HEALTH SERVICES FOR THE DEAF, N.Y. STATE PSYCHIATRIC INSTITUTE
722 West 168th St., New York 10032 (212-568-4000)
John D. Rainer, M.D., Director

A psychiatric facility for the deaf and mentally ill of 16 years of age and over. The facility serves both residential and out-patients.

Services: The facility provides psychiatric evaluation, in- and out-patient, and aftercare of deaf adolescents and adults. Pre-vocational evaluation and training are provided through the Institute.

ROCKLAND STATE HOSPITAL – SPECIAL UNIT FOR THE DEAF
Orangeburg (914-259-1000)
Oscar Diamond, M.D., Hospital Director; Kenneth Z. Altshuler, M.D. Spec. Unit Dir.

An in- and out-patient mental hospital with a special unit for the retarded deaf. Organic damage cases (organic brain damage or severe mental retardation) not generally accepted. Patients of 16 years of age and above are admitted.

Services: In- and out-patient services available for evaluation to anyone from any area; evaluation and treatment available to New York state residents only. A halfway house and a state rehabilitation program are available. The hospital provides a full program of individual and group psychotherapy, occupational therapy, social casework, pre-vocational service and evaluation. An educational program and teaching service are available to in-patients only. The hospital's program for the mentally retarded deaf extends to preventive efforts in conjunction with the New York School for the Deaf where psychiatric consultation, treatment and group meetings are available to students of all ages, plus counselling of parents.

UNITED CEREBRAL PALSY ASSN. OF THE ROCHESTER AREA
1000 Elmwood Ave., Rochester 14620 (716-442-4100)
Winifred Fletcher, Executive Director

A day treatment, educational, and recreational Center for the physically handicapped deaf, physically handicapped deaf retarded. Children from ages of 2 to 7 years and adolescents and adults from 16 years of age and over are admitted.

Services: The Center provides complete intake diagnostic clinic services for each patient. Other services include physical, occupational, and speech therapy, counseling, psychiatric evaluation and treatment, and psychological evaluations. Audiological and other related services are provided by the Speech and Hearing Center and the School for the Deaf. There is preschool education and nursery program.

ROME STATE SCHOOL
Lower So. James St., Rome 13440 (315-336-2300)
Charles Greenberg, M.D., Director

A state residential institution for the care and training of the mentally retarded of all ages. The mentally retarded with additional handicaps of hearing impairment, or deafness; cerebral palsy; visual impairments are admitted.

Services: A large state institution which provides medical, psychosocial, educational, and all rehabilitative services. A Board Certified Psychiatrist is in charge of physical rehabilitative services. The educational program is for 5 year old children and upward, including some adults. Teachers are trained in special education, speech and hearing, and O.T.R.

NORTH CAROLINA

DEVELOPMENTAL EVALUATION CLINIC, EAST CAROLINA UNIVERSITY
Charles St. Extension, Greenville 27834 (919-758-6921)
Malene G. Irons, M.D., Director

A diagnostic and evaluation clinic providing services for the handicapped and multihandicapped children in the 27 county area in Eastern North Carolina. Children from the ages 3 to 21 years are served.

Services: The primary function of the Clinic is to provide diagnostic and evaluation services for children in Eastern North Carolina. The Clinic provides a multidisciplinary study of handicapped children and with this diagnosis, form a plan which will follow through with correct identification and referral to proper resources in the community. The Clinic functions are as follows: casefinding through private physicians, local medical societies, schools; diagnostic services of medical appraisal, psychological services, social welfare, public health, nursery, speech and hearing consultation, hospitalization and laboratory tests; consultation to parents, teachers, and physicians; and follow-up in the community. The Clinic operates a special program of remedial education.

WESTERN CAROLINA CENTER
Enola Road and Interstate 40, Morganton (704-437-8717)
J. Iverson Riddle, M.D., Superintendent

A residential and out-patient center for the mentally retarded of all ages. Hearing impaired and/or deaf-mentally retarded individuals are accepted.

Services: The Center provides a complete program of audiological, psychiatric, psychological, and social adjustment services. Pre-vocational and vocational training and

an educational program are available. Medical evaluation and management, nursing care, physical therapy, ENT, eye, orthopedics, and other specialty clinics are included in the physical restoration program. Reciprocal educational and consultative services agreement is maintained with the North Carolina School for the Deaf. Future plans include a unit especially for the deaf multiply handicapped.

OHIO

UNITED CEREBRAL PALSY OF AKRON AND SUMMIT COUNTY
93 W. Exchange St., Akron 44308 (216-376-6041)
Donna S. Drganc, Program Coordinator

A day care and youth activity Center for the physically handicapped from the age of 18 months and upward. The mentally retarded-hearing impaired; physically handicapped-hearing impaired, or combination of all are enrolled.

Services: Audiological, psychological, counseling, and physical restoration services are provided on a contractual basis through Akron Children's Hospital and United Services for the Handicapped, Akron. An educational program for pre-school and school exclusions is provided. Vocational counseling, evaluation, and workshop are available to school excluded youth and adults.

CLERMONT LOGOPEDICS CENTER, INC. (Center location: Batavia)
Mailing address: 472 Gennie Lane, Cincinnati (752-0566)
James E. Mack, Director

A center for out-patient care of those who are hearing impaired or deaf, and mentally retarded. Ages from 2 years and upward are served.

Services: The Center offers service to the local community and four counties located in southern part of Ohio and northern section of Kentucky. Individuals with speech and hearing handicaps, both normal and retarded are provided evaluations and therapy. Diagnosis, assessment of problems, referrals, psychological, audiological, and speech pathology services are provided.

GOODWILL INDUSTRIES OF CENTRAL OHIO – PROJECT D.E.A.F.
1331 Edgehill Rd., Columbus 43212 (614-294-5181)
Ernest E. Hairston, Project Director

A rehabilitation facility providing services to multi-disabled deaf individuals 16 years of age and over. Additional handicaps of mental retardation, socially and educationally deprived, aphasia, cerebral palsy, and brain damage are accepted in the program.

Services: Project D.E.A.F. is designed to provide needed rehabilitation services to multi-disabled deaf individuals. Clients are referred by the Bureau of Vocational Rehabilitation and are given a 3-week work evaluation to assess vocational abilities, interest and aptitude. The facility offers a wide range of in-depth pre-employment and vocational services, which include general psychological evaluations and testing, group and individual counseling, social adjustment, and responsibility, remedial education, sex education, and sign language classes. Interpreting services are provided for deaf clients in training.

GOODWILL INDUSTRIES OF DAYTON, INC.
201 W. Fifth St., Dayton 45409 (513-461-4800)
Elmer Beckett, Executive Director

A rehabilitation center for all handicaps and combinations of handicaps for adults 16 years of age and older.

Services: The Center provides medical evaluation and management, physical therapy, audiological evaluation, counseling, work evaluation, personal and social adjustment services. A complete program of vocational training is offered in the 4-week period the client is in the unit.

OKLAHOMA

OKLAHOMA GUIDANCE CENTERS – OKLAHOMA STATE DEPARTMENT OF HEALTH
3400 N. Eastern, Oklahoma City
John W. Shackelford, M.D., Director, Div. Maternal & Child Health

The State Public Health network of guidance Centers provide evaluation and counseling service for children with learning problems, developmental problems, behavioral problems, and the multiple handicapped, their parents, and the community. Each of the Centers is under the supervision of the Medical Director of the Local Health Department. These Centers are as follows: Guidance Center, Cleveland Co. Health Dept. Norman; Guidance Center, Comache Co. Health Dept., Lawton; Guidance Center, Creek Co. Health Dept., Sapulpa; Guidance Center, Garvin Co. Health Dept., Pauls Valley; Regional Guidance Center, Pittsburg Co. Health Dept., McAlester; Guidance Center, Muskogee Co. Health Dept., Muskogee; Guidance Center, Oklahoma City-County Health Dept., Bethany; Guidance Center, Oklahoma City-County Health Dept., Southeast Communities, Del City; Guidance Center, Okmulgee Co. Health Dept., Okmulgee; Guidance Center Payne Co. Health Dept., Stillwater; Guidance Center, Pontotoc Co. Health Dept., Ada: Guidance Center Pottawatomie Co., Health Dept., Shawnee; Guidance Center, Rogers Co. Health Dept., Claremore; Guidance Center, Seminole Co. Health Dept., Seminole.

OKLAHOMA PSYCHOLOGICAL AND EDUCATIONAL CENTER
1113 N.W. 50, Oklahoma City 73118 (405-842-4435)
John L. Boland, Jr., Ph.D., Director

A private practice Center of professional specialists in psychology and education for the evaluation of the handicapped of all ages. Mentally retarded, speech impaired, hearing impaired, emotionally disturbed are all served.

Services: The center offers psycho-vocational-educational evaluation services to all kinds and types of handicapped people. Staff includes psychologists, social workers, teachers of the deaf, speech pathologists, teachers in academic subjects. Audiological, psychological, and social services, family, vocational, educational counseling are available.

UNIVERSITY OF OKLAHOMA MEDICAL CENTER – CHILD STUDY CENTER, PRESCHOOL FOR DEAF-BLIND
800 N.E. 13th St., Oklahoma City 73105 (524-4449)
Ellidee D. Thomas, M.D., Director, Child Study Center

A preschool for deaf-blind and mentally retarded children from ages of birth to 6 years.

Services: The Center provides a psycho-social and educational program with complete audiological, psychiatric, educational, and social services available to the multiply handicapped children enrolled in the preschool program. In addition to the development of motor, social and adaptive skills within the educational program, all services of the Center are available to the child.

PAULS VALLEY STATE SCHOOL
Box 609, Pauls Valley 73075 (405-238-6401)
Joseph R. Deacon, Superintendent

A state residential facility for the mentally retarded of ages 6 to 18 years on admission. All possible combinations of handicaps as concomitant conditions to a basic classification of mental retardation are admitted.

Services: Total in-resident services in all professional areas without special emphasis except as required by an individual resident are provided. The program provides medical, psychological, social, and audiological services, educational and vocational training.

THE HISSOM MEMORIAL CENTER
P.O. Box 310, Sand Spring 74063 (918-245-5911)
James G. Boren, Superintendent

A state residential facility for the mentally retarded from 6 to 18 years of age. Additional handicaps of deafness and hearing impairment are also admitted.

Services: The facility is primarily for the care, treatment, education, and training of the mentally retarded, but provides special programs for the deaf and/or hearing impaired, the blind, the non-ambulatory mentally retarded. The Center serves 19 counties of Northeastern Oklahoma for diagnostic evaluation.

OREGON

CHILDREN'S HOSPITAL SCHOOL
3575 Donald St., Eugene 97405 (513-344-2247)

A day school for physically handicapped children from 2 to 15 years of age. The physically handicapped with or without sensory impairments are enrolled.

Services: The hospital school is a day school where children who come from outside the community are placed in boarding homes and bussed to the school. The school is oriented to the multiple handicaps of a physically handicapped child and deal with a large number of speech and hearing problems. Evaluations, referrals, counseling, and physical restoration are included in the school program. Academic classes are held for children from preschool through the 6th grade.

UNIVERSITY OF OREGON MEDICAL SCHOOL, CRIPPLED CHILDREN'S DIVISION
3181 S.W. Jackson Park Rd., Portland 97201 (503-288-9181)
Richard L. Sleeter, M.D., Director

The Crippled Children's Division of the University of Oregon Medical School, in addition to administering the Crippled Children's Services for the State, maintains out-patient clinic facilities for children with a variety of handicaps. In addition, it administers the University affiliated Center for Mental Retardation.

Services: Among the categorical clinics are: Cerebral palsy, audiologic, cleft lip and palate, rubella, congenital heart defect, neurology, myelo-meningocele, orthopedic, scoliosis, growth defect, language disorder, mental retardation, and others. Disciplines staffing the clinics, or readily available, include: pediatric, neurologic, orthopedic, psychologic, audiologic, speech pathology, social work, occupational therapy, physical therapy, nutrition, special education, ophthalmology, public health nursing, and genetics.

PENNSYLVANIA

WESTERN STATE SCHOOL AND HOSPITAL
333 Curry Hill Road, Canonsburg 15317 (412-745-0700)
Howard H. Peppel, M.D., Superintendent

A state residential school and hospital for mentally retarded and emotionally disturbed children and adults of all ages. Mentally retarded with hearing impairment; deaf-blind; cerebral palsied and hearing impaired or deaf, are admitted.

Services: The institution serves as a diagnostic and evaluation center in Western Pennsylvania. Evaluation and treatment are provided through speech pathology, audiology, medical, physical, and occupational therapy, education, therapeutic recreation, psychology, social service, and nursing care. A pre-vocational and vocational training program is included in the institution's services.

CRESSON STATE SCHOOL AND HOSPITAL
Wm. Penn Highway, Cresson 16630 (814-886-8111)
James Connolly, M.D., Superintendent

A state residential and custodial institution for the mentally retarded of all ages. Patients with additional handicaps of cerebral palsy, hearing impairment and/or deafness, and other physical handicaps are admitted.

Services: As a state institution all services for the mentally retarded deaf are found here. Evaluations are made by speech and hearing clinic. Referrals, whether medical, educational, or otherwise are carried out at the institution. Most residents (handicapped deaf) who remain are severely limited mentally and a program expansion is unnecessary because of the proximity of Ebensburg State Hospital and its program. The multiply handicapped deaf residents are sent to that institution for enrollment in deaf education classes if they are educable or trainable.

EBENSBURG STATE SCHOOL AND HOSPITAL
R.D. 1, Ebensburg 15931 (814-472-7350)
James R. Connolly, M.D., Director

A residential state school and hospital for the mentally retarded of ages 2 to 18 years of age. Additional handicaps of cerebral palsy, and hearing impairment are also admitted.

Services: The institution provides complete speech, language, and hearing evaluations upon admission. A complete program of medical evaluation and management, physical and occupational therapy, psychological, audiological, and social services is provided. An academic program is available and special classes for the educable or trainable mentally handicapped deaf are offered.

ELWYN INSTITUTE
Elwyn 19063 (215-566-8800)
Gerald R. Clark, M.D., Director

A residential/day center for care and treatment of children and young adults with learning disabilities. Handicaps of mental retardation, hearing and visual impairment, neurological impairments, and the deaf-partially sighted are admitted. Children from 5 to 15 years of age are accepted for the educational programs. Selected older students are accepted for vocational programs.

Services: Full interdisciplinary diagnostic evaluation is provided to each student. Medical evaluation and management, physical and occupational therapy, nursing care, audiological, psychiatric, psychological, and social services are included in the program. An academic program, pre-vocational and vocational evaluation and training, and sheltered workshop employment are offered. In September, 1970, a program will be initiated for deaf-visually impaired children.

THE WOODS SCHOOLS
Langhorne 19047 (215-757-3731)
Harold S. Barbour, Ed.D., President

A residential study, treatment, and research center for mental retardates from age 2 through adulthood. The hearing impaired-mentally retarded are enrolled.

Services: The Woods Schools has provided programs and service for the multiply handicapped, mentally retarded, and functionally retarded. Included in the population at the present time, are a few who are hearing impaired and have some degree of mental retardation. In the light of the current building program, it is conceivable that expansion of the programs for the deaf and hearing impaired combined with mentally retarded, could be considered. The program includes a full time medical director, medical laboratory, medical pavilion for the acutely ill, and all routine and required medical and medico-biological support services. The clinic service of The Schools provides psychological, psychiatric, social work, and speech and hearing departments for the residents. The educational and training department provides classroom training for the special needs of the population sheltered workshops, vocational and pre-vocational training, and related activity in occupational programming.

LAURELTON STATE SCHOOL AND HOSPITAL
Laurelton 17825 (717-922-3311)
Lawrence R. Kroner, M.D., Superintendent

A state residential facility for the mentally retarded. An attainment of adolescence is necessary for admission. Admits retardates with handicaps of impaired vision and impaired hearing.

Services: Multidiscipline evaluation on admission including medical diagnosis, and evaluation and treatment. Consultation services are available in all medical specialties.

Other services include medical evaluation and management, prosthetics especially glasses, dental, and hearing. Included in the prosthetic treatments are the provisions for hearing aids, hearing aid orientation, and maintenance by the Speech and Hearing Department. Audiological diagnosis and speech, hearing and language evaluations are provided. Training in speech and language is available but auditory training is not now provided. The Director of the Speech and Hearing Clinic at the institution states classes could be provided for manual and oral language, lip reading, and auditory training if a need is presented.

HOME OF THE MERCIFUL SAVIOUR
4400 Baltimore Ave., Philadelphia 19104 (215-222-2566)
Margaret S. Lysle, Director

A private academic residential school and intensive therapy center for cerebral palsied children between ages of 4 and 12 years. Children with additional handicap of deafness are enrolled.

Services: Each child must have pre-admission audiological, psychological, and educational evaluations prior to acceptance in the school. These evaluations are repeated in the home by consultant staff. Services include parent counseling, physical, occupational, and speech therapy, and an educational program. A class for deaf-cerebral palsied children is included in the academic structure.

ST. CHRISTOPHER'S HOSPITAL FOR CHILDREN, AUDIOLOGY DEPARTMENT
2600 N. Lawrence St., Philadelphia 19133 (426-5600)
Mrs. Marguerite Eversden, Director

A diagnostic and therapy center for preschool children who may be visually and hearing impaired, intellectual and hearing impaired, intellectual and hearing impaired or deaf.

Services: Mandatory medical services such as pediatric, otologic, and audiologic are provided. Ophthalmological and psychological services are available. Emphasis is on parent training and guidance with pre-enrollment home visitations, psychological, and social adjustment evaluations during enrollment period prior to referral to educational settings.

UNITED CEREBRAL PALSY OF SCHUYLKILL, NORTHUMBERLAND AND CARBON COUNTIES
210 So. Centre St., Pottsville 17901 (717-622-7920)
Mrs. Mal Weaver, Executive Director

An out-patient nursery and sheltered workshop for the cerebral palsied of all ages. Additional handicaps of visual and hearing impairments, deaf, mental retardation are accepted.

Services: The Center deals with all types of handicaps including the multiple with hearing problems. For the young child, when placement in a special residential school is indicated, referrals are made. A physical restoration program is maintained by four clinics per year. Psychological services, audiological screening, social services, parent counseling, and patient home care, are provided. An educational program of 4 nursery classes, pre-primer – 3½ to 8 years, is available. Services include pre-vocational and vocational training and sheltered workshop.

YORK COUNTY EASTER SEAL SOCIETY FOR CRIPPLED CHILDREN AND ADULTS
431 Pattison St., York 17403 (717-845-2675)
Mrs. Margaret E. Moul, Executive Director

An Easter Seal treatment center for children and adults with cerebral palsy and other problems of mental retardation, speech and hearing.

Services: The staff at this Center includes physical, occupational, and speech therapists. Speech reading and auditory training, evaluations and consultant services for orthopedics are available. Pre-kindergarten classes are conducted.

SOUTH CAROLINA

PARKER HOUSE CENTER FOR HEARING HANDICAPPED CHILDREN
1616 Richland St., Columbia 29201 (803-765-2491)
Mrs. Barbara Bradford, Special Education Consultant

An educational day center for hearing handicapped and intellectually impaired-hearing handicapped children. The Center enrolls children from kindergarten (4 years of age) through primary grades.

Services: Primarily an educational center providing academic classes in deaf and special education to kindergarten through primary grades. The Center offers counseling and evaluation services. Consultative services are purchased from outside agencies.

SOUTH CAROLINA RETARDED CHILDREN'S REHABILITATION CENTER
Jamison Road, Ladson 29456 (803-873-5750)
Erbert F. Cicenia, Ed.D., Superintendent

A residential facility for mentally retarded from 4 to 40 years of age. The mentally retarded with handicaps of visual and hearing impairment, deaf-blind, hearing impaired or deaf and mentally retarded, cerebral palsy and hard of hearing or deaf and retarded, are also admitted.

Services: The program emphasis for the hearing impaired multiply handicapped is to provide a total program of evaluation and treatment. The child receives a complete diagnostic work-up consisting of social service, medical, psychological, speech and hearing, and education. After evaluation, an appropriate program is planned, including activities in all the mentioned areas where necessary. Speech therapists give intensive sessions in auditory training, speech reading, and speech production. The speech department then aids regular teachers in dealing with these children in the classroom. A social worker sees every family and gives supportive follow-up when needed. An out-patient team visits home of children who are unable to come in for services.

TENNESSEE

OPERATION CROSSROADS REHABILITATION CENTER OF THE SISKIN MEMORIAL FOUNDATION
529 Oak St., Chattanooga 37403 (615-265-3491)
Warner N. Kass, Administrator

Patients are admitted to the Center regardless of age, sex, race, religion or ability to pay. All patients must be referred by licensed and qualified physicians. Primarily for the physically handicapped, some multihandicapping conditions are admitted. Within the complex of the Center are the Physical Therapy Department, Orthotic and Prosthetic Clinics, Child Study Center, Dental Clinic, and the Chattanooga-Hamilton County Speech and Hearing Center. Through a close working relationship with these agencies the evaluation, treatment, care, and rehabilitation of the handicapped is met.

GREENE VALLEY HOSPITAL AND SCHOOL
P.O. Box 3087, Greeneville 37743 (615-639-2131)
James M. Willett, M.D., Superintendent

A state residential institution for mentally retarded of all ages. Primary handicap is mental retardation, however, secondary handicaps of hearing impairment are admitted.

Services: The institution provides a multi-emphasis program of medical, psychosocial, educational, and vocational services. Audiological evaluation and training, psychological and social adjustment evaluations are provided. There is an academic program for preschool children through third grade.

DANIEL ARTHUR REHABILITATION CENTER
Emory Valley Road, Oak Ridge 37830 (615-483-7482)
Z. H. Brody, Director

A rehabilitation center and special education school for the handicapped of all types and combinations of all ages.

Services: The Center provides regional comprehensive rehabilitation and educational services. The clinical program includes pediatric, orthopedic, brace and prosthetic, arthritis, and dental clinics; physical therapy; psychological and psychiatric services; social services; speech and hearing services; and occupational therapy. The educational program includes special education classes in primary, advanced, and experimental areas. In addition, a severely mentally retarded program is carried out. There is a vocational evaluation program providing some remedial education and training.

TEXAS

AUSTIN STATE SCHOOL
Box 1269, Austin 78767 (512-454-4731)
Larry W. Talkington, Superintendent

A state residential institution for the mentally retarded of all ages. The deaf-blind, hearing impaired or deaf and mentally retarded are also admitted.

Services: The institution provides an educational and vocational program for residents. Out-patients are seen for psychological and educational evaluations only. Residents receive audiological evaluation and training, psychological evaluation and treatment. There is an academic program of ungraded classes. Pre-vocational and vocational evaluation and training are available for residents.

DALLAS SOCIETY FOR CRIPPLED CHILDREN
2312 Oak Lawn, Dallas 75219 (214-521-9988)
Loyd F. Martin, Executive Director

An Easter Seal out-patient agency for all handicaps to 16 years of age, and some adults. Children with multiple handicaps of cerebral palsy-deaf; deaf, blind and mentally retarded; deaf, blind and cerebral palsied; deaf and syndrome, are accepted.

Services: The Easter Seal agency is the only center in the community having a program for the pre-school multihandicapped child. A medical and neurological clinic is held twice weekly. Services include medical evaluation and management, physical and occupational therapy, perceptual training, orthotic clinic, audiological evaluation, therapy, and training, psychological diagnosis and testing. Social adjustment program and parent counseling are available. The Center has recently added a program for the deaf-blind child to their Hearing Department and are adding special equipment and different teaching techniques to accommodate these children.

THE CHILDREN'S DEVELOPMENT CENTER
3131 N. Pearl, Dallas 75201 (214-748-0051)
Mrs. Sylvia Jenkins, Executive Director

A day training school for children with learning handicaps from 18 months to 18 years of age. Children who are intellectually impaired with over-laying problems in vision, hearing, birth defects, and emotional disturbances, are accepted.

Services: An educational agency offering a program of ungraded levels in special education as well as psychological services, and parent and volunteer orientation. Parent group counseling toward home structuring in education and management is provided. Services include inter-agency referral and report set-up.

DALLAS *(See Area Centers for Services to Deaf-Blind Children)*

DENTON STATE SCHOOL
P.O. Box 368, Denton 76202 (817-387-3831)
E. W. Killian, Superintendent

A state operated 24-hour residential care facility for the retarded from the age of 1 year through life. Mental retardation with associated impairments such as hearing impairment, are accepted.

Services: The School provides comprehensive diagnostic and evaluation services for all residents. Other services include audiological evaluation, speech therapy, language development, and sign language training. Psychiatric consultation, behavioral modification, psychometric testing, social service, medical evaluation and management, and occupational therapy. There is a limited home program for the management of non-residents, and counseling to parents of residents and non-residents. Seven levels of special education classes are conducted. Pre-vocational evaluation, workshop training, and use of a sheltered workshop are offered.

SOUTH TEXAS HABILITATION CENTER
P.O. Box 533, Edinburg 78539 (512-383-3902)
Lucas Hinojosa, Director-principal

A residential special education school for young people of 14 to 21 years of age who are mentally retarded and the mentally retarded deaf.

Services: A special academic program of classes IV through VII is provided. Additional services include psychiatric services, psychological evaluation, individual and parent counseling, social services, and vocational adjustment training.

MOODY SCHOOL FOR CEREBRAL PALSIED CHILDREN
Galveston 77550 (713-744-3651)
Douglas M. Daniels, Medical Director

A residential school and therapy center for children 5 to 14 years of age who have cerebral palsy. Children with additional handicaps of hearing impairment are accepted if they can benefit from program.

Services: The Moody School is part of the Univ. of Texas Medical Branch Facilities, and all the services of the university are available by consultant basis. The School provides a strong educational program from regular and special education to individual therapy. Other services include medical, pediatric, orthopedic, physical, occupational, and speech therapies, psychological, audiological, psychiatric, and social services. Parent counseling and instruction in patient home care are available.

HOUSTON SPEECH AND HEARING CENTER, TEXAS MEDICAL CENTER
1343 Moursund Ave., Houston 77025 (713-524-3136)
Jack L. Bangs, Ph.D., Director

A speech and hearing center for communication disorders. All ages are accepted for diagnostics. Birth through first grade and adults for other services are served. Any combination or combinations of handicaps are accepted.

Services: Through affiliation with the Texas Medical Center and the Texas Institute for Rehabilitation and Research, the Speech and Hearing Center provides a comprehensive program of medical, psycho-social, and educational services. Complete evaluation, psychological, audiological, and social services are available. Counseling, individual and parent, and referral services are provided. An educational program includes classes through non-graded first grade level.

LUFKIN STATE SCHOOL
P.O. Box 1648, Lufkin 75901
W. W. Beaver, Superintendent

A state residential school for the mentally retarded from ages 6 to 65 years. Additional handicaps of deafness or hearing impairment are also admitted.

Services: A full range of speech pathology and audiological services, and audiological training are offered, in addition to referral to state suported ENT services. Some research is carried on in the areas of speech pathology and audiology. Other services include counseling, social adjustment services, physical therapy, and academic program. Pre-vocational and vocational evaluation and training in all phases, are available, including sheltered workshop.

PERMAIN BASIN REHABILITATION CENTER
512 E. 13th St., Odessa 79760 (915-332-8244)
Jim Crow, Executive Director

A rehabilitation center for children and adults for the handicapped who are visually and hearing impaired, deaf-mentally retarded, intellectually and hearing impaired or deaf, physically, psychologically, and neurologically impaired. Children and adults are served on an out-patient basis only. Physician referral is required for admission.

Services: Patients receive social service orientation and evaluation in such discipline areas as occupational therapy, physical therapy, and speech therapy. Psychometric evaluations, intake interview, physical therapy, and occupational therapy are available. The educational program includes language evaluation, counseling, and remedial education.

CEREBRAL PALSY TREATMENT CENTER
2219 Babcock Road, San Antonio 78228 (696-1910)
Robert M.T. Jutson, Executive Director

A day treatment center for cerebral palsied children from 1 to 18 years of age. Children who are mentally retarded and hearing impaired; cerebral palsied and hearing impaired, are accepted.

Services: Services include psychological evaluation, physical and occupational therapy. Speech therapy is offered which includes diagnosis, evaluation, and therapy. Social caseworkers provide counseling, evaluations, management and follow-up. There are academic classes in special education for the educable and trainable mentally retarded. Vocational evaluation and training are offered.

VERMONT

BRANDON TRAINING SCHOOL
Brandon 05733 (802-247-5711)
Raymond M. Mulcahy, Superintendent

A state residential school for the mentally retarded of ages 3 through 75 years. Patients who are additionally handicapped by deafness, visual, or hearing impairments are also admitted.

Services: Diagnostic services, physical rehabilitation program, and referral to other clinics or agencies when indicated, are provided. Services of a consulting psychiatrist are available for treatment and therapy sessions. Clinical psychologists provide tests and counseling for all residents. Audiological services include testing, treatment and training, and evaluation for entire population is underway. The social adjustment program provides evaluation, group living adjustment, social development classes, and counseling. The school conducts academic classes for educable and trainable mental retardates with special tutorial classes for multiple handicaps available. Classes range from preschool through adult education. The pre-vocational program, primarily for moderately and severely retarded, prepares them for the work activity center (sheltered workshop). Vocational training is offered in conjunction with a Vocational Rehabilitation Unit located on the campus.

MEDICAL CENTER HOSPITAL OF VERMONT – DE GOESBRIAND UNIT
CENTER FOR DISORDERS OF COMMUNICATION,
Burlington 05401 (802-863-3451)
Madeline B. Miles, Acting Director

A non-residential, out-patient evaluation/therapy facility for all ages with disorders of communication. Service is also provided for deaf-blind; deaf/mentally retarded; deaf/language disability handicapped persons.

Services: Patients are given initial diagnostic evaluation to determine the extent of problems. Extended diagnostic evaluations (up to 5 weeks) are provided when it is indicated necessary. Complete audio testing, coordinated with ENT examination, if indicated, and individual and/or group therapy; psychometric testing and evaluation, are available. A medical coordinator (pediatrician) and a psychological consultant are included on the staff to provide diagnostic and evaluative procedures in the areas of psychological and social adjustment services. All children in the therapy program are given physical and neurological examinations. The educational program includes complete academic testing, coordination with school program, and remedial tutor services.

VIRGINIA

WILKES STREET SCHOOL
501 S. Pitt St., Alexandria 22314 (703-548-9804)
Cressie Y. Miller, Director

A public school for trainable mentally retarded children from ages 2 to 21 years. The primary handicap must be mental retardation, but those children with a secondary handicap of hearing impairment are enrolled.

Services: The academic program is on ungraded levels. Vocational training is on referral basis when it is indicated the student is ready. Psychological services are available on referral through the School Board Office. Counseling for parents is available.

WOODROW WILSON REHABILITATION CENTER
Fisherville 22939
Ortho Smith, Director

A comprehensive rehabilitation center serving ages 16 to 65 years, who may be deaf and mentally retarded; deaf and cerebral palsied, deaf and emotionally disturbed. Both residential and day students are enrolled.

Services: After acceptance by the Admissions Committee all multiply handicapped deaf or hearing impaired are entered into the regular comprehensive evaluation or training program at the Center. Personnel of the Deaf Project coordinate and assist in all services rendered to these multiply handicapped individuals. Services include general orientation and overall rehabilitation evaluation, occupational, physical, and speech therapy, audiological and psychological services, and counseling. Job try-out and testing, work adjustment training, vocational evaluation, counseling, remedial education, and training are included in the rehabilitation program. If students cannot be assisted within the Deaf Project of the Center, they are referred to appropriate programs or agencies.

TIDEWATER REHABILITATION INSTITUTE
855 West Brambleton Ave. Norfolk 23510 (703-625-3681)
Thaddeus Gaber, Executive Director – Evelyn Hellinger, Ed.D., Dir., Spec. Educ.

The Tidewater Rehabilitation Institute is a unit of the Norfolk Area Medical Center Authority operated by the Tidewater Health Foundation under an agency agreement. The Institute provides a comprehensive, inter-disciplinary setting, those evaluation, and rehabilitation services indicated for multiply handicapped persons of all ages, infancy through old age. It offers out-patient facilities only.

Services: The Institute's program of services is in the areas of: physical therapy, occupational therapy, amputee program, emphysema-bronchitis program, electromyography, hearing service, speech service, psychological service, work evaluation, social service, and the Diagnostic Special Education School. The Diagnostic Special Education School provides for children from age 3-12 with mental, physical, and sensory disabilities who require special modifications in education and auxiliary services. Children who are mentally retarded with secondary disabilities (i.e., problems in speech or hearing, motor activity, visual perception), children of average intelligence with neurologically-based learning disabilities, or hearing impairments, children with physical or medical problems, pre-school handicapped children who require available special services, are provided an educational program. Extensive diagnostic testing and evaluation to determine areas of deficit are prerequisite so that a specific educational plan or prescription can be provided for each child. The classes are organized into four major areas: academic, communications, psycho-social, and mobility.

WASHINGTON

RAINIER SCHOOL
Buckley 98321 (206-829-1111)
G. D. Thorne, Superintendent

A state operated residential school for the mentally retarded from 1 to 70 years of age. Additional handicaps of deafness, or hearing impairment, are admitted.

Services: A multidisciplinary center providing a comprehensive program of medical, occupational, physical, and speech therapy, orthopedics, psychological, psychiatric, and audiological services. Academic and vocational training are provided. A sheltered workshop is also operated by the School.

UNIVERSITY OF WASHINGTON, EXPERIMENTAL EDUCATION UNIT, CHILD DEVELOPMENT AND MENTAL RETARDATION CENTER,
Seattle 98105 (206-543-4011)
Norris Haring, M.D., Director

A unit for experimental education for children 2½ to 6 years of age. The unit provides day services for the deaf-mentally retarded and hearing impaired with specific learning abilities.

Services: Multidisciplinary diagnostic service in medical evaluation and management, social casework, audiological, psychiatric, psychological services, and counseling. The educational program includes classes for preschool age children, and a home program. The Experimental Education Unit is a part of the Child Development and Mental Retardation Center at the University. It is a multidisciplinary center with emphasis on research, training, and service.

WASHINGTON STATE CEREBRAL PALSY CENTER
2000 N.E. 150th St., Seattle 98155 (206-262-5656)
Mrs. Caryl L. Cochrane, Superintendent

A residential, educational, diagnostic, and training school primarily for the neurologically impaired of ages 1 to 21 years. Those who have additional handicaps of deafness or hearing impairment can be and are being serviced in terms of the evaluation and training program. Out-patient services are also available.

Services: The Center provides multi-disciplinary evaluation relative to school. These areas of discipline are in audiological, psychiatrical, psychological, and social adjustment services. The physical restoration program provides for medical recommendations, physical and occupational therapy. The educational program includes evaluation, counseling, remedial education, and academic classes primarily for 5 to 13 year olds. Parent counseling is provided by psychologist, physician, and teacher.

VANCOUVER *(See Area Centers for Service to Deaf-Blind Children)*

WEST VIRGINIA

WEST VIRGINIA REHABILITATION CENTER
Institute 25112 (304-768-8861)

The Center is a vocationally-oriented, multidisability facility using the team approach in providing a wide range of rehabilitation services to handicapped persons. Center admission is restricted to the severely handicapped or to persons with a combination of disabling conditions which would make the rehabilitation process difficult or impossible outside a rehabilitation center setting. Multiple handicaps of visually and hearing impaired; deaf-blind; hearing impaired or deaf and mentally retarded; deaf and cerebral palsy; deaf and psychotic; deaf amputees are served. Handicapped persons from 16 years of age and up are eligible for service.

Service: Services provided at the Rehabilitation Center can be grouped into six major categories: Vocational evaluation, prevocational and adjustment training, vocational training, medical services, sheltered work experience, and other services. The vocational evaluation program determines the specific job, or range of jobs, for which a client is best suited. Prevocational and adjustment training is designed to help any person who needs the Center's services, but cannot immediately adjust to the routine. Vocational training is offered in 26 major fields, with classes starting at various times during the year and range in 4 to 12 months duration. Sheltered Workshop offers a program of sheltered work experience for clients. The Center offers a wide range of medical services including physical and occupational therapy, speech and hearing treatment, dental services, and x-ray. There is also a 50-bed treatment unit with a full-time physician and nurses. Other services include remedial education; mobility training for the blind and visually impaired; counseling and social services.

CEREBRAL PALSY COUNCIL OF CABELL COUNTY, INC.
2547 First Ave., P.O. Box 5453, Huntington 25703 (304-523-1164)
Mrs. John East, Director

A cerebral palsy treatment clinic for children from 9 months to 16 years of age. Hearing impaired children are treated, but there are no special facilities for the deaf.

Services: The Clinic has facilities to treat the multiple handicapped child as an out-patient in the areas of physical, occupational, and speech therapy.

WISCONSIN

NORTHERN COLONY AND TRAINING SCHOOL
Box 340, Chippewa Falls 54729
A. C. Nelson, Superintendent

A custodial and residential colony and training school for mentally retarded children and adults from the age of 5 years. The hearing impaired, or deaf mentally retarded are accepted.

Services: The institution offers a complete program of medical, psycho-social, educational, and vocational services. Included in these services are audiology, physical and occupational therapy, social casework and follow-up, and counseling. The academic program includes classes in primary, intermediate, and young adult levels, plus individual tutoring.

GREEN BAY SCHOOL FOR THE DEAF
525 S. Madison St., Green Bay 54301 (432-0351, ext. 342)
Mrs. Leahnore Smith, Principal

A day school for deaf children from ages 2 to 20 years. Deaf children with additional handicaps of cerebral palsy or mental retardation are accepted.

Services: The school provides a special education program through the twelfth grade. Educational, psychological evaluations and some parental counseling are available.

CENTRAL WISCONSIN COLONY
317 Knutson Drive, Madison 53704 (608-249-2151)
R. C. Schurenberger, Ph.D., Director

A residential and custodial institution for mentally retarded persons of all ages. Accepts patients with additional handicaps of visual and hearing impairments and orthopedically handicapped. Out-patient services are available.

Services: The institution serves a population of which the majority is severely or profoundly retarded with multiple handicaps. A complete program of evaluation, counseling, physical restoration, and behavior modification treatment is provided. Auditory training, speech and language therapy, physical, occupational, and activity therapies are available. Pre-school classes in special education are offered. There is a development evaluation center housed at the Colony which provides pre-vocational evaluation for out-patients. Parents receive instruction in home program of home care and management of patients.

EASTER SEAL SOCIETY OF MILWAUKEE COUNTY
5225 W. Burleigh, Milwaukee 53210 (871-1270)
Ruth Dants, Professional Program Administrator

A multi-service center for children and adults serving all handicaps and all combinations with hearing impairment. Multi-service program includes preschool (3-8), home-

bound children and adults, summer day camp, young people work and recreational programs.

Services: A multi-purpose agency serving different populations within the overall psycho-social and educational program. Emphasis, intake procedures and service differ from one individual to the other. Pre-school program includes psycho-education program and parental counseling. A program, recreational in orientation, is provided for homebound adults and children.

AREA CENTERS AND SERVICES FOR DEAF-BLIND CHILDREN

The Project Centers of the Educational Services, Bureau of Education for the Handicapped, U.S. Office of Education, Department of Health, Education, and Welfare, Washington, D.C., administers a program authorized under Public Law 90-247, Part C, which amends Title 6 of the Elementary and Secondary Education Act to establish a limited number of model centers for deaf-blind children.

The primary objective of an area center for deaf-blind children is to develop and make available comprehensive and effective services for all deaf-blind children in the geographic area to be served by the center. The centers will provide the following basic services to deaf-blind children, as required by the act: comprehensive diagnostic and evaluative services; education, adjustment and orientation programs utilizing all the professional and allied services required; and, effective consultative services for parents, teachers, and others who play a direct role in the lives of deaf-blind children to enable them to understand the special problems of such children and to assist in the process of education, adjustment and orientation.

Eight centers for deaf-blind children have been funded under Title 6-C of the Elementary and Secondary Education Act. Three of these centers are now developmental in nature and are developing specific programs to meet the needs of deaf-blind children in their area. The remaining five are operational and provide those comprehensive services described. The eight centers will serve 40 states. The Centers and Areas served are as follows:

Area Center for Services to Deaf-Blind Children, c/o Alabama Institute for Deaf-Blind Children, Box 268, Talladega, Ala. 35160, Ronald Cyphers, Coordinator (Serving Alabama, Tennessee, Georgia, Florida, Mississippi)

Area Center for Services to Deaf-Blind Children, c/o State Department of Education, 721 Capitol Mall, Sacramento, Calif. 95814, Dr. William Blea, Coordinator (Serving California, Nevada, Arizona, Hawaii)

Area Center for Services to Deaf-Blind Children, c/o Colorado Department of Education, 430 State Office Building, Denver, Colo. 80203, Donald F. Moriarty, Coordinator (Serving Colorado, Utah, Nebraska, Kansas. New Mexico, Wyoming)

New England Area Center for Services to Deaf-Blind Children, c/o Perkins School for the Blind, 175 N. Beacon St., Watertown, Mass. 02172, Lars Guldager, Coordinator (Serving Massachusetts, Maine, New Hampshire, Vermont, Connecticut, Rhode Island)

Area Center for Services to Deaf-Blind Children, c/o Michigan State School for the Blind, 715 Willow St., Lansing, Mich. 48906, A. Charles Weir, Coordinator (Serving Michigan, Wisconsin, Illinois, Indiana, Ohio)

Area Center for Services to Deaf-Blind Children, c/o The New York Institute for the Education of the Blind, 999 Pelham Parkway, Bronx, N.Y. 10469, Khogendra Das, Coordinator (Serving New York, New Jersey, Pennsylvania, Delaware)

Area Center for Services to Deaf-Blind Children, c/o Callier Hearing and Speech Center, 1966 Inwood Road, Dallas, Tex. 75235, Dr. Edwin Hammer, Coordinator (Serving Texas, Arkansas, Louisiana, Oklahoma)

Area Center for Services to Deaf-Blind Children, c/o Washington State School for the Blind, P.O. Box 1865, Vancouver, Wash. 98663, Paul Starkovich, Coordinator (Serving Washington, Oregon, Alaska, Idaho, Montana, North Dakota, South Dakota, Wyoming)

Regional centers with educational programs designed to meet the needs of the deaf-blind children in the United States are:

Perkins School for the Blind, 175 North Beacon St., Watertown, Mass. 02172
Alabama Institute for the Deaf & Blind, P.O. Box 268, Talladega, Ala. 35160
Michigan State School for the Blind, 715 West Willow St., Lansing, Mich. 48906
New York Institute for Education of the Blind, 999 Pelham Parkway, Bronx, N.Y. 10469
California School for the Blind, 3001 Derby St., Berkeley, Calif. 94705
Washington School for the Blind, P.O. Box 1865, Vancouver, Wash., 98663.

Services available from participating agencies in regional centers for the deaf-blind:

George Peabody College Deaf-Blind Treatment and Evaluation Center, George Peabody College, Nashville, Tenn. 37203.

The college provides a complete medical, psychological, audiological, social, and educational workup, a joint Vanderbilt Hospital–Bill Wilkerson Hearing and Speech Center–Peabody College effort.

Callier Hearing and Speech Center, 1966 Inwood Road, Dallas, Tex. 75235.

The Center has begun tutorial programs for deaf-blind children in metropolitan Dallas. Expansion of program is proposed and will include a home program for these children.

THE NATIONAL CENTER FOR DEAF-BLIND YOUTH AND ADULTS

The National Center for Deaf-Blind Youth and Adults has been established by the Industrial Home for the Blind, Brooklyn, New York, under contract being developed at the U.S. Social and Rehabilitation Service. The IHB was selected because of its success in developing regional training and rehabilitation services for the deaf-blind over a period of eight years. Director of the National Center is Dr. Peter J. Salmon, Industrial Home for the Blind. Services offered by the National Center include case findings, evaluation, communications training, training in independent travel, low-vision rehabilitation, and long-term rehabilitation services, including employment as indicated.

RESEARCH PROJECTS IN THE FIELD OF RUBELLA

Seriological and Virus Isolation Studies of Infectious Diseases in the Collaborative Study on Cerebral Palsy, Mental Retardation, and Other Neurological and Sensory Disorders of Infancy and Childhood.

National Institute of Neurological and Diseases and Stroke, Bethesda, Md.
J. Sever, D. Fuccillo, J. Todaro, A. Fabiyi, and G. Gitnick. Duration of Grant - Ongoing. NDB(CF)57PR/ID402

Clinical Investigations in Human Volunteers and Other Populations of Virus Effects and Production of Prototype Human Antisera and Vaccines.
(Includes the study of safety, antigenicity, communicability and immunogenicity of candidate rubella vaccines)

National Institute of Neurological Diseases and Stroke, Bethesda, Md.
J. Sever, S. Schacher, G. Gitnick, R. Huebner, and D. Fuccillo.
Duration of Grant - Ongoing. NDB(CF)61PR/ID835

Sequelae of Measles.
(A current list of all students in the 4th, 5th, 6th, and 7th grades at Fort Belvoir, Virginia, was compiled and questionnaire sent to each parent for information regarding child's history of infectious diseases including rubeola, rubella, varicella, roseola, mumps, and scarlet fever.)

National Institute of Neurological Diseases and Stroke, Bethesda, Md.
Elliot C. Wilner, Duration of Grant - Ongoing. NDB(CF)67E1496

Experimental Animal Tissue Culture, Histopathological and Serological Investigations of the Role of Viruses and Other Microorganisms in the Perinatal Period.

National Institute of Neurological Diseases and Stroke, Bethesda, Md.
W. Longon, G. Birnbaum, J. Singer, J. Sever, and A. Ley.
Duration of Grant - Ongoing. NDB(CF)62PR/ID972

Prenatal Infection and Pregnancy Outcome.
(Research in support of the National Institute of Neurological Diseases and Stroke Perinatal Research Program. Study of children in the Johns Hopkins Collaborative Project and rubella project.)

Johns Hopkins University, Baltimore, Md.
J. L. Sever. Grant period FY 68 - FY 69. PH 43-68-710

Collaborative Studies in Cerebral Palsy and Other Neurological and Sensory Disorders of Infancy and Childhood.
(Information collected from women studied during pregnancy and from their offspring followed throughout infancy and early childhood by a number of medical centers throughout the country will be pooled)

Heinz W. Berendes, M. D., National Institute of Neurological Diseases and Stroke, Bethesda, Md. Bibliography of publications available from Project Director.
Duration of Grant - 1956, continuing.

Effects of Maternal Rubella as Evaluated in the One-Year-Old Child.

National Institute of Neurological Diseases and Stroke, Bethesda, Md.
K. B. Nelson, J. L. Sever and M. R. Gilkeson
Duration of Grant - Ongoing NDB(CF)65PR/PN1271

Rubella Vaccine Development Program

National Institute of Neurological Diseases and Stroke, Bethesda, Md.
J. L. Sever, G. L. Gitnick, D. Fuccillo, A. Fabiyi and R. Traub
Duration of Grant - Ongoing NDB(CF)66PR/ID1326

Study of Incidence and Nature of Birth Defects in Infants Born to Mothers who had German Measles or Exposure in Early Pregnancy.

Dr. Frank R. Lark, Bowman-Gray School of Medicine, Winston-Salem, NC
Research funded by National Foundation-March of Dimes, New York, NY

Rubella Birth Defect Evaluation Project. An Experimental Preschool Program for Multihandicapped Children with Congenital Rubella, between the New York Univ. Medical Center and New York City Board of Education.

Oct. 1967 - Bellevue Hospital, New York, NY.
Supported by funds from the National Foundation-March of Dimes, Health Research Council of the City of New York (I-526 and U-1056), and National Institute of Allergy and Infectious Diseases (AI-07578)

RESEARCH PROJECTS RELATING TO MULTIPLY HANDICAPPED

To Develop a Research and Demonstration Project to Study Methods and Procedures in Meeting the Needs of Young Adults with Cerebral Palsy in Their Personal, Social, and Vocational Adjustment.

(A planning study to develop a demonstration program concerned with meeting the vocational rehabilitation needs of multiple handicapped, severely disabled cerebral palsied young adults)

United Cerebral Palsy of New York City, Inc., 70 Fifth Avenue, New York, NY 10011
Martin E. McCavitt, Ed.D. RD-813-P, 1962-1*

Milieu Rehabilitation for Physical and Mental Handicaps.

(To evaluate the effectiveness of a rehabilitation program combining physical and psychiatric treatment at the same community health center)

Butler Health Center, 333 Grotto Ave., Providence, RI 02906
J. S. Bockoven, M. D. RD-182, 1957-3*

Family and Mental Health Problems in a Deaf Population.

(To help overcome vocational disability in deaf persons with mental health problems by establishing a psychiatric clinic where treatment is especially designed for those unable to carry on a normal conversation.)

N. Y. State Psychiatric Inst., 722 W. 168th St., New York, NY 10032
Franz J. Kallman, M. D. RD-7, 1955-7* Special Report, "Mental Health Planning for the Deaf."

Identification and Vocational Training of the Institutionalized Deaf-Retarded Patient: Programming Habilitation of the Hospitalized Deaf-Retarded.

(To identify deaf individuals residing in State institutions for the mentally retarded who appear to have vocational rehabilitation potential, and to develop a comprehensive rehabilitation program to meet their individual needs.)

Michigan Dept. of Mental Health, Lewis Cass Bldg., Lansing, MI 48913
Anthony Abruzzo, M. D., and V. A. Stehman, M. D. RD-800-S, 1962-3*
Final report in 2 vols.

Regional Rehabilitation Center Research and Demonstration Project.
(To develop a comprehensive service program to meet the varied vocational, social, and personal needs of blind and deaf-blind persons residing in a large geographical area.)

San Francisco Lighthouse for the Blind, 1097 Howard St., San Francisco, CA 94103
George W. Felton, RD-779-S, 1961-3*

An Analysis of Evaluation Procedure, Disability Types, and Recommended Treatments for 100 Deaf-Blind Children.
(A pilot project to analyze the evaluation procedures, disability types, and recommended treatment for 100 deaf-blind children in order to identify the most effective procedures for use with this group.)

Syracuse Univ., 201 Marshall St., Syracuse, NY 13210
W. Scott Curtis, Ph.D., and Edward T. Donlon, RD-2497-S, 1967-1*

Rehabilitation Center for Persons with Multiple Handicaps.
(To demonstrate the effectiveness of utilizing a residential facility and a range of community services in the vocational and social rehabilitation of persons with multiple handicaps, placing especial emphasis on evaluation in the community.

Delta Foundation for Rehabilitation and Research, 6919 111th Ave., Snohomish, WA 98290
Bert H. Worley, RD-1940-G, 1966-3

Rehabilitation Vocational Training Facility Research and Planning Project.
(Aplanning grant to determine the most suitable space, design, and construction for a vocational training building to accommodate students with a variety of handicapping conditions.)

Woodrow Wilson Rehabilitation Center, Fishersville, VA 22939
T. K. Fitzpatrick, RD-1854-G, 1966-1*

Comprehensive Mental Health Services for the Deaf.
(To demonstrate a method for providing psychiatric services to deaf people on both an inpatient and outpatient basis.)

N. Y. State Psychiatric Inst., 722 W. 168th St., New York, NY 10032
John D. Rainer, M. D. RD-1197-S, 1963-3*

Clinical Demonstration of Rehabilitative and Preventive Psychiatric Programs For the Deaf.
(To demonstrate the value of halfway houses and day care programs for discharged psychiatric deaf patients, develop and test a preventive program, and provide training for professional personnel interested in specialized psychiatric services for the deaf.)

Research Foundation for Mental Hygiene, Rockland State Hospital, Orangeburg, NY 10962
John D. Rainer, M. D. RD-2128-S, 1966-3

Pilot Project to Plan Mental Health Services for the Deaf.
(A pilot project to demonstrate and evaluate various methods of providing mental health services to the adult deaf.)

Welfare Planning Council, Los Angeles Region, 731 So. Hope St., Los Angeles, CA 90017
Robert J. Currie, RD-2166-S, 1966-1*

Psychiatric Diagnosis, Therapy, and Research on the Psychotic Deaf.
(To demonstrate the feasibility of providing psychological, psychiatric, and vocational rehabilitation services to the so-called "psychotic deaf.")

Michael Reese Hospital and Medical Center, 29th and Ellis Ave., Chicago, IL 60616
McCay Vernon, RD-2407-S, 1967-3*

A Pilot Project to Develop Mental Health Services for the Deaf Community in the San Francisco Bay Area.
(A pilot project to plan the development of a comprehensive community mental health program for the deaf.)

California Dept. of Mental Hygiene, Langley Porter Neuropsychiatric Inst., 401 Parnassus Ave., San Francisco, CA 94122
Hilde S. Schlesinger, M. D. RD-2408-S, 1967-1*

A Comprehensive Faculty Program for Multiply Handicapped Deaf Adults.
(To establish a comprehensive vocational rehabilitation facility program for multiple handicapped deaf adults.)

Hot Springs Rehabilitation Center, Hot Springs, AR 71901
Donald G. Martin, Ph.D. RD-2684-S, 1968-5

Mental Health Services for the Deaf: A Program of Research and Services.
(To investigate the acquisition and usage of standard and nonstandard language systems in a study of communicative skills among preschool deaf children.)

Langley Porter Neuropsychiatric Inst., 401 Parnassus Ave., San Francisco, CA 94122
Hilde S. Schlesinger, M. D. RD-2835-S, 1968-3

Rehabilitation of Deaf-Blind Persons.
(To define successful methods used in the rehabilitation of the deaf-blind and to develop a manual and guide which can be used nationally in setting up rehabilitation services and identifying job opportunities for the deaf-blind.)

Industrial home for the Blind, 57 Willoughby St., Brooklyn, NY 11205
George E. Keane. RD-96, 1956-2* 7 vols. in final report

Auditory Rehabilitation for Hearing-Impaired Blind Persons.
(To identify the travel and vocational problems of hard-of-hearing blind persons and develop a pilot program of aural rehabilitation services.)

Industrial Home for the Blind, 57 Willoughby St., Brooklyn, NY 11201
George E. Keane, RD-315, 1958-3*

Regional Rehabilitation Service for Deaf-Blind Persons.
(To establish a regional Rehabilitation service for deaf-blind persons.)

Industrial Home for the Blind, 57 Willoughby St., Brooklyn, NY 11201
Peter J. Salmon, RD-1004-S, 1962-5* Special reports: New Frontiers for Research on Deaf-Blindness; Instructions in Physical Orientation and Foot Travel for Deaf-Blind Persons: A Lesson Plan Outline.

Achieving Rehabilitation Potential with Multiple Disabled Blind Persons.
(To demonstrate the effectiveness of a community-oriented rehabilitation center program for blind persons with multiple disabilities who have been determined vocationally unfeasible by State Rehabilitation agency.)

Cleveland Society for the Blind, 1909 E. 101st St., Cleveland, OH 44106
Cleo B. Dolan, RD-1296-S, 1965-4*

An Industrial Workshop-Homework Demonstration for the Vocational Rehabilitation of the Older Blind and the Multiple Handicapped Blind in the State of New Hampshire.

(To demonstrate the value of an industrial, workshop-homework program for the vocational rehabilitation of the older blind.)

Services to the Blind, Div. of Welfare, New Hampshire Dept. of Health and Welfare, State House Annex, Concord, NH 03301
Carl Camp, RD-1306-S, 1965-3*

Remunerative Employment of Multiple Handicapped Blind Persons.

(A pilot study to determine the need of employment in sheltered workshops by multiple handicapped blind persons and the possibility of securing appropriate contracts.)

National Industries for the Blind, 50 W. 44th St., New York, NY 10036
R. C. Goodpasture. RD-2405-S, 1967-5*

Expanding Sheltered Workshop Employment Opportunities for Multi-Handicapped Blind Persons.

(To demonstrate the values and limitations of specially selected sheltered workshop tasks which are presumed to be appropriate for multi-handicapped blind persons and to ascertain the degree to which such contracts may be incorporated into the workshop structure.)

National Industries for the Blind, 50 W. 44th St., New York, NY 10036
William A. Taylor, RD-2819-S, 1968-3

The Integration of Agency Services into a Multi-Disability Vocational Services Program.

(To integrate the specialized services of several agencies into a multi-disability vocational services program.)

Evansville Assn. for the Blind, 500 Second Ave., Evansville, IN 47710
John K. Flake, RD-1549-G, 1965-3*

Rehabilitation Action Project.

(To develop methods of organizing and concentrating the resources of all community agencies for intensive counseling and other rehabilitation services to the severely disabled.)

Welfare Council of Metropolitan Chicago, 123 W. Madison St., Chicago, IL 60602
Emily Manz. RD-527, 1960-3* Spec. Report: Physicians Directory of Rehabilitation Services and Facilities, P. Kalber and R. W. Susman.

Directory of Organizations Interested in the Handicapped.

(To evaluate the previous People-to-People sister city project and revise, update, reissue, and distribute the Directory of Federal and Private Agencies Working With or for the Handicapped in the United States.)

Committee for the Handicapped, People-to-People Program, 1218 New Hampshire Ave., N. W., Washington, DC 20036
Frank H. Krusen, M. D. RD-2048-G, 1966-1*

An Exploration of the Advisability of Developing a Research and Demonstration Project Concerned with Elevating the Readiness for Vocational Rehabilitation of Multiply-Disabled Young Adults.

Young Adult Inst. and Workshop, 109 Eighth Ave., Brooklyn, NY 11215
Bert MacLeech, Ed.D. RD-2085-G, 1966-1*

Development of More Effective Teaching Methods for Children with Multiple Sensory Impairments.

(To study methods for the teaching of children with multiple sensory impairments.)

L. Muller-Willis, Ph.D., Univ. of Minnesota Medical Rehabilitation Research and Training Center, Dept. of Physical Medicine and Rehab., Minneapolis, MN 55455.
RT-2-C-4, 1965-2

Demonstration Project for the Training of Mentally Retarded Deaf Through Film Media.

(A survey of the existing programs for mentally retarded deaf in the United States to establish criteria for identification and to develop educational media and programs employing the Functional Teaching of the Mentally Retarded Approach.)

Catholic University of America, 620 Michigan Ave., N.E., Washington, DC
Max G. Frankel, Ph.D. Grant OEC-2-7-00073-0073, 1966-1*

Study of "The Establishment of Audiological Assessment Techniques for Hearing-Vision Impaired Children."

San Francisco Hearing and Speech Center, Pacific Medical Center Annex, 2340 Clay Street, San Francisco, CA 94115
Dr. Rayford C. Reddell, Dir. of Research. Ongoing research supported by the James Irvine Foundation.

*An asterisk after the date of grant indicates that the project is completed. Requests for final reports of the projects should be sent *DIRECT* to the institution given.

ABSTRACTS OF LITERATURE ON RUBELLA

Alford, B. R. (1200 Moursund Ave., Houston, Tex. 77025) Rubella–La Bete Noire de la Medicine. (Rubella–The "bete noire" of Medicine) *Laryngoscope*, 78, 1968, 1623-1659

The experiences with 160 infants and children whose mothers had or were exposed to rubella during pregnancy were reviewed. The malformations of these infants were tabulated and related to maternal history and viral cultures or serological studies. Special emphasis was given to the patients with hearing loss. The temporal bones of four patients who died as a result of virologically-proven rubella infections were reviewed. The case histories of twins with different manifestations of the disease and of one other patient with an interesting clinical course were presented. The data was discussed and related to the epidemiology, teratology, pathology, physiology, and natural history of rubella in newborns. The need for prevention of maternal infection was emphasized. 84 references. (Author)

Anon., Rubella and Congenital Defects. *Brit. Med. J.*, 1960, 5204, 1005

A British Ministry of Health report of 1960 by Mason, Logan and Loy, summarized 578 cases of rubella in England, Scotland and Wales from 1950-7. Although rubella after the 16th week of pregnancy did not affect the foetus, rubella in the first 12 weeks of pregnancy resulted in increased chances of abortion, stillbirth, and death before two years of age. Comparable incidence figures of defects in the rubella series, with 5717 controls in parentheses, are: congenital heart disease 4.7 (0.2%), cataract 4.7 (0.04%), deafness 3.0 (0.08%), suspected deafness 3.6 (0.04%), mental deficiency 1.8 (0.4%). Of 202 cases of maternal rubella in the first 12 weeks of pregnancy, 19% of the children surviving at 3-5 years of age showed impaired hearing, seldom to a severe degree. (dsh Abstracts)

Barr, B. and Lundstrom, R. Deafness Following Maternal Rubella. Retrospective and Prospective Studies. *Acta oto-laryngol.*, 53, 1961, 413-423

In a series of 752 children with severe hearing impairments the incidence of histories of maternal rubella was 12%, ranging between 40% and zero according to birth in epidemic and nonepidemic years. All cases of congenital rubella deafness stemmed from maternal rubella in the first four months of pregnancy, except one which was referable to the fifth month. The audiograms of rubella-deafened children had a typical asymmetrical appearance, the curves being flat and the loss sometimes unilateral. Vestibular functions were usually normal. (Author's summary)

Barr, D. F. (Berkshire Rehab. Cent. Inc., Pittsfield, Mass.) Rubella: Implications for Amplification. *Nat. Hear. Aid. J.*, 22(2), 1969, 6, 20

Stresses the importance of amplification and suggests types of circuits hearing aids should have as well as the amount of power they should use. Binaural aids are recommended if: (a) a 15 dB difference exists between ears, (b) the loss is severe, or (c) the loss bilaterally for speech is in the 80-90 dB (hearing level) range. (dsh Abstracts)

Butler, N. R. (Hosp. for Sick Children, London, England), Dudgeon, J. A., Hayes, K. K., Peckham, C. S. and Wybar, K. Persistence of rubella antibody with and without embryopathy. *Brit. Med. J.*, 1965, 5469, 1027-1029

The British Public Health Laboratory Service recorded 27,000 women who were given gamma-globulin between 1954 and 1962 because of exposure to rubella in early pregnancy. The present study concerns a small sample, 70 children one to three years old, who were found not to have rubella defects paranatally or neo-

natally. 50 of these children showed no clinical evidence of defects; however, 42% of them showed rubella antibodies. 20 children had rubella defects: deafness (four), retinopathy (eight), or both defects (eight). Seropositive findings (antibody titres of 4 or more) were present in 90% of these 20 children, compared to incidence figures of 6% in a random population and 85% in a group with known, classical defects. The authors reason that subclinical rubella infection, leading to seroconversion, can exist in the first 20 weeks of pregnancy without clinical defects later in the child. (dsh Abstracts)

Bordley, J. E. (Johns Hopkins U. Sch. Med., Baltimore, Md.), Brookhouser, P. E., Hardy, J. and Hardy, W. G. Prenatal Rubella. *Acta oto-laryngol.*, 66,1968,1-9

This study has demonstrated that cultural and serological studies are necessary for the proper identification of rubella infection in the newborn. In the future, much diagnostic information must come from our virus laboratories. The morbidity of this infection during prenatal life is severe especially in those children exhibiting positive virus at birth. The incidence of hearing loss in the Baltimore epidemic was high. Virus infection in the inner ears of our temporal bones resulted in changes of varying degrees within the cochlear duct and the saccule. Damage to the ears of a child frequently results in differing degrees of deafness on the two sides. A preliminary report was made on this study in 1966 (Bordley et al). 19 references. (Authors)

Calugi, A. (U. Rome, Italy) and DeMaria, R. In tema di embriopatie auricolari; la forma roseolica (Auricular Embryopathis: the Rubella Form). *Quad. Clin. Ostet. Gine.*, 19, 1964, 660-672

The most typical rubella embryopathies affect the eye, ear, heart, central nervous system and the teeth. Congenital deafness due to rubella usually appears alone, sometimes associated with congenital cardiac defects and less often cataract. The embryology of the internal ear occurs between the fourth and twelfth to fourteenth week. In this period the damage is directly attributable to the time factor (Tondury sensitive phase), the adapted pathogenetic agent and the intensity of the pathogenic stimulus. The rubella virus reaches the site of implant of the ovum and destroys the villous epithelium and the endothelium of vessels of the villi. An anti-rubella vaccine may soon be commercially available. Gamma-globulin is indicated before the disease becomes manifest: 20 ml. of 16% standard substance every 15 days up to the third month. (dsh Abstracts)

Campbell, M. (Inst. Cardiology, London, England) Place of Maternal Rubella in the Aetiology of Congenital Heart Disease. *Brit. Med. J.*, 1, 1961, 691-696

The risk of abortion and of malformations in the child after maternal rubella during the first 12 weeks of pregnancy is considerable, though it must still be expressed as lying between wide limits. It is between 30% and 70% during the first four weeks, between 25% and 55% during the second four weeks, between 20% and 40% during the third four weeks, and between 10% and 25% during the fourth four weeks; later than this there is no increased risk. Perhaps the lower figures are nearer the true risk generally and the higher ones apply to particular epidemics. Deafness is the greatest risk, then congenital heart disease, and then cataract; mental defect and microcephaly and several other malformations are lesser risks. (Author's summary)

Cockburn, W. C. (World Health Organization, Geneva) World Aspects of the Epidemiology of Rubella. *Amer. J. Dis. Child.*, 118(1), 1969, 112-122

Review of world literature suggests no real evidence of differences in risk associated with geographical or temporal factors or with epidemic versus nonepidemic periods. 63 references. (dsh Abstracts)

Cooper, L. Z. (New York Sch. Med., New York City), Ziring, P. R., Ockerse, A. G., Fedun, B. A., Kiely, B. and Krugman, S. Rubella Clinical Manifestations and Management. *Amer. J. Dis. Child.*, 118(1), 1968, 18-29

Specific laboratory techniques were available for rubella viral diagnosis in the 1964 epidemic. Evaluation of 376 children whose mothers' pregnancies were complicated by rubella in the 1964 epidemic provides the spectrum of abnormalities associated with congenital rubella. Multidisciplinary, longitudinal, coordinated medical and educational services are required in treatment. (dsh Abstracts)

Danish, J. M., Tillson, J. K. and Levitan, M. Multiple Anomalies in Congenitally Deaf Children. *Eugenics Quart.*, 10, 1963, 12-21

Charts of 499 children at the Pennsylvania School for the Deaf were studied. Apart from 32 cases of incomplete data, 31% had acquired deafness, 17.6% had nonhereditary congenital deafness. Of the remaining 240 cases, some 115 were said to have congenital hereditary deafness on a "probable" level due to presence of deafness in the student's family. Associated anomalies, covering a wide range of physical defects, were present in greater number, and in more children, in persons with congenital deafness than in those with acquired deafness. The type of anomaly depended on whether the congenital deafness had hereditary or nonhereditary causes. (dsh Abstracts)

Forbes, J. A. (Fairfield Hosp. for Communicable Dis., Melbourne, Victoria, 3078, Australia) Rubella: Historical Aspects. *Amer. J. Dis. Child.*, 118(1), 1969, 5-11

Historical review of rubella and its medical treatment. The urgent need is for an efficient vaccine as an insurance against fetal rubella. 54 references. (dsh Abstracts)

Friedmann, I. and Wright, M. I. Histopathological Changes in the Foetal and Infantile Inner Ear Caused by Maternal Rubella. *Brit. Med. J.*, 2(5504), 1966, 20-23

Maternal rubella in the first trimester of pregnancy results in a high incidence of hearing loss. Rendle-Short suggested that the incidence of hearing loss may be 50%. Histopathology study of the inner ear was made on four foetal skulls and on four temporal bones of two infants who lived less than a week. Pathological findings included hemorrhage into the scalae and the mesenchymatous modiolus. In two foetal cases, despite blood in the cochlea, the neuroepithelial structures of the organ of Corti and of vestibular segments showed rather advanced indications of differentiation. In the infantile inner ears, the organ of Corti was mature morphologically. Inflammatory granulations in the vascular stria lead to adhesions between it and Reissner's membrane. The tectorial membrane was damaged in both cases. Perhaps such neuroepithelial degeneration may derive from the inflammatory process itself. The authors postulate that the rubella virus both (a) arrests auditory system development and (b) continues to be active in the more fully developed organ. (dsh Abstracts)

Gajewski, J. E. (Med. Ed., Therapeutic Notes, Parke Davis & Co., Detroit, Mich. 48232) Viruses and Pregnancy. *Therapeutic Notes,* 74, 1967, 58-63

Viral infection in the expectant mother may adversely affect the course of her pregnancy and result in abortion, fetal death, congenital malformation, or neonatal illness. The precise sequelae of maternal viral disease depend upon the severity of the maternal infection, virulence of the infecting organism, and gestational age at the time of infection. One of the effects of fetal viral infections that is compatible with life and becomes manifest only after birth or in early infancy includes auditory defects. 16 references. (dsh Abstracts)

Gilbert, P. M. The Consultant and the Rubella Child. *Nat. Hear. Aid. J.*, 22(2), 1969, 7-22

The otologist, the pediatrician, the psychologist, and the pediatric clinical audiologist should be the sole determinants as to whether a rubella child should have amplification. The hearing aid dealer must exercise extreme caution when dealing with rubella babies. (Author)

Giles, J. P. (New York U. Sch. of Med., N. Y.), Cooper, L. Z. and Krugman, S. The Rubella Syndrome. *J. Pediat.*, 66, 1965, 434-437

A retrospective survey of 20 children with the rubella syndrome was conducted in an institution for mentally retarded children. Rubella infection was acquired during the first trimester of pregnancy. Among the 20 children, a high incidence of prematurity was observed. The average birth weight was low, even in full-term infants. Among the 20 children, cataracts were observed in 15, deafness in 11, congenital heart disease in 13, microcephaly in 10 and mental retardation in 20. Although 69 anomalies were observed in the 20 children by 5 years of age, only 17 anomalies were detected at birth. (Authors)

Goodheart, B. Exit German Measles? *Today Health*, 47(6), 1969, 26-28, 71-72

Describes symptoms of, effect and cost of rubella epidemic. Reports on new effective vaccine. Advocates adoption as preventive measure against reoccurrence of rubella epidemic. (dsh Abstracts)

Grayson, T. J., Peng, J. and Lee, G. C. Y. (Med Sch. U. Washington, Seattle), Congenital Abnormalities Following Gestational Rubella in Chinese. Report of a Prospective Study Including 5-year Follow-up Examinations after the 1957-58 Rubella Epidemic on Taiwan, Formosa), *J. Amer. Med. Assn.*, 202, 1967, 95-100

Taiwan (Formosa), after 14 years without rubella, had a large island-wide outbreak in 1957 through 1958 involving an estimated one million cases. 117 pregnant women who suffered rubella were identified while still pregnant and the results of their pregnancies were followed-up for five years. Of 35 pregnancies in women with rubella during the first trimester, four ended in spontaneous abortion, two in stillbirth, and three in neonatal death. 10 of the live-born children (including one that died during the neonatal period) had congenital abnormalities. Six deaths were of functional significance. The ear was involved in five, the eyes in five, the heart in four. The risk of a tragic outcome attributable to rubella in pregnant women was about 25%. This study, to our knowledge the first report in an Oriental population, has given results similar to prospective studies in white women. (dsh Abstracts)

Grayston, J. T., Detels, R., Chen, K. P., Gutman, L., Kim, K.S.W., Gale, J. L. and Beasley, R. P. (Dept. Preventive Med., U. Washington, Seattle, 98105), Field Trial of Live Attenuated Rubella Virus Vaccine During an Epidemic on Taiwan. (Preliminary Report of Efficacy of Three HPV-77 Strain Vaccines in the Prevention of Clinical Rubella.) *J. Amer. Med. Assn.*, 207, 1969, 1107-1110

Three experimental rubella vaccines derived from the HPV-77 attenuated strain were field tested in a placebo controlled trial for ability to prevent rubella during an epidemic on Taiwan. A total of 3,259 doses of the vaccines and 2,735 doses of placebo were given in March, 1968 to boys in grades one through four in two schools in Taipei and Taichung, Taiwan. Twice weekly surveillance for rash disease in the placebo and uninoculated children showed, by the end of June, cumulative attack rates of more than 50% in Taipei and 20% in Taichung. There was a sharp drop in rash cases among boys receiving vaccine between two and three weeks after inoculation. Results showed an efficacy beginning three weeks following immunization for all three vaccines of 93% and 94% in the prevention of clinical rubella. (Authors)

Hardy, J. B. (Johns Hopkins U. Sch. Med., Baltimore, Md.), Monif, G.R.G. and Sever, J. L. Studies in Congenital Rubella, Baltimore 1964-65. II. Clinical and Virologic. *Bull. Johns Hopkins Hosp.*, 118,1966, 97-107

Clinical and virological observations on 33 infants with manifestations of congenital rubella are presented. Severity of defects correlates well, in general, with gestational age at time of maternal rubella. (dsh Abstracts)

Hardy, J. B. (601 N. Broadway, Baltimore, Md. 21205), McCracken, G. H., Gilkeson, M. R. and Sever, J. L. Adverse Fetal Outcome Following Maternal Rubella After the First Trimester of Pregnancy. *J. Amer. Med. Assn.*, 207, 1969, 2414-2420

Of the 24 women with clinical and laboratory evidence of rubella between the 14th and 31st weeks of pregnancy, two experienced fetal loss and 22 were delivered of live-born infants who survived. Rubella virus was recovered from the products of conception in the instances of fetal loss, and from the throats of two and the placenta of another of the 19 live-born tested. Seven of the live-born children are normal, one had an elevated serum IgM level at birth, and none of the seven have detectable rubella antibody after six months of age. 15 of the live-born children are suspected to be abnormal; 10 of these have problems in communication. Of the 15, six have had elevated serum IgM levels and 10 have had detectable levels of rubella antibody after six months of age. (Authors)

Hodgson, W. R. (Dept. Hearing and Speech, U Kansas Med. Cent., Kansas City), Auditory Characteristics of Post-Rubella Impairment. *Volta Rev.*, 71(2), 1969, 97-103

This report presents evidence suggesting that post-rubella hearing impaired children do not exhibit undue tolerance problems for amplified sound, and that the evidence accumulated to date does not justify the generalization that these children cannot benefit from hearing aid use. (Author, edited)

Keir, E. H. Results of Rubella in Pregnancy. II. Hearing Defects., *Med. J. Aust.*, 2, 1965, 691-698

A report based on the study of 103 children born after rubella in the first months of pregnancy. The following conclusions have been drawn. The risk of severe hearing disturbances is 25% when rubella occurred in the second or third month of pregnancy; it falls to 5.7% when it occurred during the fourth month. Minor hearing disturbances are noted in 21% of the cases when maternal rubella happened in the first 16 weeks of pregnancy. The audiographical aspects of the observed disturbances are described with details. (dsh Abstracts)

Keleman, G. (2122 W. 3rd St., Los Angeles, California 90057) Rubella and Deafness. *Arch. Otolaryngol.*, 83, 1966, 520-532

On the basis of study of temporal bones of three fetuses and three young children, all of whose mothers suffered rubella during the pregnancy, the author reiterates his previous position: "It was assumed that the viral attack results in vascular vulnerability which persists from the moment of the first assault. Extravasation in strategical locations has deleterious consequences regarding function. Vascular insufficiency persists and manifests itself at any intra-uterine or extra-uterine period; infections such as pneumonia and otitis develop on the basis of predisposition created by extravasation." (dsh Abstracts)

Korones, S. B. (Child Develop. Program, 42 N. Dunlap, Memphis, Tenn.), Anger, L. E., Monif, G. R. G., Roane, J., Sever, J. and Fuste, F. Congenital Rubella Syndrome: New Clinical Aspects with Recovery of Virus from Affected Infants. *J. Pediat.*, 67, 1965, 166-181

Data are presented on 17 new-born infants which support a broader concept of the rubella syndrome than has been previously accepted. A planned clinical study has demonstrated myocardiopathy, regurgitative jaundice associated with hepatosplenomegaly, interstitial pneumonitis, and bone changes in addition to the well-known teratogenic and purpuric components of the rubella syndrome. The virus was identified in one or more specimens from each infant, confirming the earlier observation of persistence of virus in the neonate and documenting several new clinical components of the rebella syndrome. 17 references. (Aughors)

Krugman, S. (New York U. Sch. of Med., N.Y.) Rubella—A New Light on an Old Disease. *J. Pediat.*, 67, 1965, 159-161

Virus isolation and seriologic studies of patients with rubella during epidemic of 1964 enabled investigators to shed new light on an old disease. "Infants with congenital rubella infection have exhibited the following clinical manifestations either singly or in combination: (a) low birth weight; (b) eye lesions, such as cataract, glaucoma, or retinitis; (c) deafness; (d) brain lesions associated with microcephaly, meningoencephalitis, or hydrocephalus; (e) cardiac defects, especially patent ductus arteriosus and ventricular septal defects; (f) thrombocytopenic purpura; (g) hepatosplenomegaly; (h) pneumonitis; (i) jaundice (hepatitis); and (j) bone lesions." 12 references. (dsh Abstracts)

Liggins, G. C. (U. Auckland, New Zealand) and Phillips, L. I. Rubella Embryopathy. *Brit. Med. J.*, 1(5332), 1963, 711-713

Epidemiology of rubella in New Zealand is hampered by its not being a reportable disease. However, in retrospect, high incidences of deaf children and rubella coincided in 1899 and 1939 in New Zealand, and 1956, 1957 and 1958 in Australia. In 1959 a rubella epidemic occurred in New Zealand permitting study of its statistics. Of 89 acceptable cases of maternal rubella, 22 cases terminated in abortion. Of 67 viable pregnancies, 32 had rash in the first trimester. 12 babies had abnormalities attributed to rubella. Defects were noted to involve the eye (9 cases), hearing (8 cases), and heart (7 cases). Hearing defects were bilateral, perceptive, mainly severe. Rubella in early stages (first or second month) had a higher incidence of abnormality. (dsh Abstracts)

Lock, F. R. (Wake Forest Coll., Winston-Salem, N.C.), Gatling, H. B. and Wells, H. B. Difficulties in the Diagnosis of Congenital Abnormalities: Experience in a Study of the Effect of Rubella on Pregnancy. *J. Amer. Med. Assn.*, 178(7), 1961, 711-714

In a study of 176 children whose mothers had infection or exposure to rubella during pregnancy, 41.3% of the anomalies found were not definitely detectable by standard clinical methods for the appraisal of children under one year. The majority of initially unsuspected anomalies are serious enough to cause considerable handicap in the future. The inadequacy of diagnostic criteria in regard to mental status, visual acuity, auditory status, and cardiac murmurs in infancy is recognized. The physician is advised to use caution in giving parental guidance based on data from investigations that terminate with examinations of children under one year of age. (Rehab. Lit.)

Lundstrom, R. Rubella During Pregnancy. *Acta Paediat.*, Suppl. 133, 51, May, 1962

When it appeared, in 1951, that an epidemic of rubella was prevalent in Sweden, an inquiry was made at all relevant hospitals for the purpose of collecting a series of maternal rubella cases and of women exposed to rubella in pregnancy without overt disease as the basis for a statistical analysis of the mortality and the frequency of congenital anomalies in the offspring. The inquiry, which lasted from July 1,

1951, through June 30, 1952, concerned about 100,000 pregnancies and aimed at an investigation of all pregnancies complicated by rubella during the epidemic. Deafness and chorioretinitis were found only in rubella children who also showed a higher incidence of congenital heart defects and of congenital cataract. The frequency of congenital cataract, deafness and congenital heart disease following first trimester rubella in pregnancy is higher than in control cases. (Author's Summary)

Manson, M. M., Logan, W. P. D., and Loy, R. M. Rubella and Other Virus Infections During Pregnancy. Reports on Public Health and Medical Subjects, No. 101. London: H. M. Stationery Off., 1960, Pp 101

Based on data gathered in a prospective survey by local health authority officers in England, Scotland, and Wales from 1950 through 1957, the report analyzes conclusions from findings in more than 7,000 completed cases and controls under review. Two conclusions of importance were demonstrated: that risk of rubella in early pregnancy leading to birth of a malformed infant is much less than earlier studies indicated, and that children born of mothers with a history of rubella during pregnancy should be kept under observation to detect the possible occurrence of deafness. Other virus infections studied did not have the same harmful effects on the fetus as did rubella occurring during the first trimester of pregnancy. Malformations of the heart, cataract, and deafness were the most common defects noted in children studied for this report. Earlier retrospective and prospective studies made in various countries are reviewed briefly in the introduction. (Rehab. Lit.)

Menser, M. A. (Children's Med. Res. Fndtn, and Inst. Pathology, Royal Alexandra Hosp. for Children, Sydney, Australia), Dorman, D. C., Kenrick, K. G., Purvis-Smith, S. G., Slinn, R. F., Dods, L. and Harley, J.D. Congenital Rubella Long-Term Follow-Up Study. *Amer. J. Dis. Child.*, 118 (1), 1969, 32-34

Fifty congenital rubella patients were followed for 25 years. Most common defect reported was deafness. Many patients made good socio-economic adjustment. Authors present a more optimistic view of the future of young patients with congenital rubella than many have taken. The need for lifelong histories is stressed. (dsh Abstracts)

Monif, G. R. G. (NINDB, Bethesda, Md.), Hardy, J. B. and Sever, J. L. Studies in Congenital Rubella, Baltimore 1964-5. I. Epidemiogic and virologic. *Bull.* Johns Hopkins Hosp., 118, 1966, 85-95

Effects of the 1964 rubella epidemic in Baltimore on the outcome of pregnancy in 1086 women enrolled in The Johns Hopkins Collaborative Perinatal Project is discussed. (dsh Abstracts)

NIH Division of Biologics Standards. Breakthrough in Rubella Research. *Hear. and Speech News,* 36 (6), 1968, 6, 7, 20

Tells of the development of rubella vaccine and the clinical trials. Doctors can now determine if a person is immune to rubella. This will help to slow the expected epidemic in the early 1970's. (dsh Abstracts)

Pitt, D. and Keir, E. H. Results of Rubella in Pregnancy. III. *Med. J. Aust.*, 2, 1965, 737-741

Of 103 infants whose mothers presented rubella during pregnancy, 100 survived and were studied between four and eight years of age. The over-all risk of major embryopathy during the first 16 weeks of pregnancy was 23.8%; it was 60% during the first four weeks, 33% from the fifth to the twelfth week and 5.7% from the thirteenth to sixteenth week. If minor troubles and more especially hearing disturbances which are frequent are considered, the over-all incidence of anomalies is 43.3% during the first 16 weeks. (dsh Abstracts)

Pitt, D. and Keir, E. H. Results of Rubella in Pregnancy. *Med. J. Aust.*, 2, 1965, 647-651

The course of pregnancy and the infant condition could be studied in 102 cases of maternal rubella: bilateral deafness in 15.5%, cardiopathy in 8.3%, important ocular disturbances in 4.8%, encephalopathy in 2.4%. The anomalies were multiple in five cases, isolated in 15. Pigmentar retinitis was noted in 33% of the cases; its maximal incidence is noted when rubella occurs between the ninth and twelfth weeks. (dsh Abstracts)

Plotkin, S. A. (Wistar Inst., 36 St. at Spruce, Philadelphia, Pa.), Cochran, W., Lindquist, J. M., Cochran, G. G., Schaffer, D. B., Scheie, H. G. and Furukawa, T. Congenital Rubella Syndrome in Late Infancy. *J. Amer. Med. Assn.*, 200(6), 1967, 435-441

A group of 109 Philadelphia infants with congenital abnormalities presumably caused by rubella was analyzed for various features. Isolation data showed that only a few infants had virus present in the throat and cerebrospinal fluid by one year of age (9% and 4%, respectively). Recovery of virus from lens material obtained at surgery, however, was frequent, even in patients 18 months old. The neutralizing-antibody test was found useful in the retrospective diagnosis of rubella syndrome. A titer of 1:4 or greater in infants older than six months was 94% accurate in identifying intrauterine infection. The complement-fixation test was less useful. (Authors)

Plotkin, S. A. (Wistar Inst., 36th St. at Spruce, Philadelphia, Pa.), Oski, F. A., Hartnett, E. M., Hervada, A. R., Friedman, S. and Gowing, J. Some Recently Recognized Manifestations of the Rubella Syndrome. *J. Pediat.*, 67, 1965, 182-191

In the wake of a large epidemic of rubella which reached a peak in the spring of 1964, an epidemic of congenital abnormalities occurred in Philadelphia during the last half of 1964 and the first months of 1965. The striking facts concerning the infants born after intrauterine rubella have been the severity and diversity of the abnormalities including thrombocytopenic purpura, hepatosplenomegaly, and abnormalities of the long bones, as well as the high frequency with which rubella virus has been isolated from the nasopharynx of affected infants. 16 references.(Authors)

Rabinowitz, M. (New York U. Med. Cent., N.Y.) Rubella: Case Histories. *Nat. Hear. Aid. J.*, 22(2), 1969, 5, 18-20

Four different types of rubella cases are presented. Each case is a challenge to the audiologist and may give inconsistent results. (dsh Abstracts)

Rawls, W. E., Desmyter, J. and Melnick, J. L. (Baylor U. Coll. Med., Houston, Tex.), Serologic Diagnosis and Fetal Involvement in Maternal Rubella. *J. Amer. Med. Assn.*, 203, 1968, 111-115

A series of pregnant women with clinical rubella or exposed to a rubella-like illness was studied in an effort to establish a diagnosis of rubella by serologic means. Serologic evidence of rubella could not be found in seven exposed women in whom clinical illness did not develop. A fourfold rise in antibody titer was demonstrated in 13 of 16 women with a rubella-like illness. Ten women underwent therapeutic abortions and rubella virus was recovered from nine of 10 abortuses. Rubella virus was also isolated from the placenta and throat swab of the one infant delivered thus far from the women with first trimester rubella. The number of fetal cells infected with virus was determined in five fetuses and found to be between one per 1,000 and one per 250,000 cells. The findings indicate that a high proportion of fetuses

are infected in serologically proven maternal rubella. The number of fetal cells infected by rubella virus is relatively small, a finding which supports the hypothesis that viral persistence in congenital rubella results from in utero establishment of clones of infected cells. (Authors)

Rendle-Short, J. (U. Queensland, Australia) Maternal Rubella: The Practical Management of a Case. *Lancet,* 2 (7356), 1964, 373-376

When maternal rubella occurs at two to four weeks of fetal age, the incidence of embryopathy is approximately 60%. Hearing defects occur in 50%, heart defects in 50%, and visual defects in 30% of affected children. The doctor should discuss with the prospective parents the probability and type of abnormality which may result. Although British law does not explicitly justify the termination of pregnancy, such termination seems warranted when the risk of embryopathy is around 60%. (dsh Abstracts)

Richards, C. Middle Ear Changes in Rubella Deafness. *J. oto-laryngol. Soc. Aust.,* 1, 1962, 173-182

Medical and audiologic evidence of middle-ear changes in rubella deafness is reviewed and discussed. The general conclusions of the paper are: (a) that there is a conductive component in some cases of rubella deafness; (b) that the conductive element is often caused by congenital fixation of the stapes, and (c) that the conductive element may be corrected by surgery. 32 references. (dsh Abstracts)

Rowe, R. D. (Green Lane Hosp., Auckland, New Zealand) Maternal Rubella and Pulmonary Artery Stenoses: Report of Eleven Cases. *Pediatrics,* 32, 1963, 180-185

Eleven patients with pulmonary artery stenosis associated with a history of maternal rubella in the early months of the pregnancy are described. Seven were infants whose mothers had contracted rubella at the time of an epidemic in New Zealand in 1959. Eight patients suffered from either deafness or cataracts. All had associated simple cardiovascular anomalies, chiefly pulmonary valve stenosis or patent ductus arteriosus, but in four instances the additional anomalies were mild. (Author)

Rubella Group for Deaf/Blind Children. *Report on the Conference on Children with a Combined Visual and Auditory Handicap.* Available from Mrs. P. Freeman, 63 Horn Lane, Woodford Green, Essex, Great Britain, 1961. Pp 83

The Conference used the term "deaf-blind" to include any degree of visual or auditory loss, regardless of cause, for which special education is needed. Papers delivered covered the etiology and incidence of congenital eye, ear, and heart defects, parent problems, psychological assessment, and education. Transcripts of the discussion following each paper and a summary of the conference proceedings are also given. (dsh Abstracts)

Rudolph, A. J. (Baylor U. Coll. of Med., Houston, Tex.), Yow, M.D., Phillips, C. A., Desmond, M. M., Blattner, R. J. and Melnick, J. L. Transplanted Rubella Infection in Newly Born Infants. *J. Amer. Med. Assn.,* 191, 1965, 843-845

A series of 25 infants with clinical manifestations of the rubella syndrome are reported. In addition to congenital heart and eye defects, many of these infants presented a syndrome consisting of growth retardation, generalized purpura (with thrombocytopenia), hepatosplenomegaly, encephalomylitis, and characteristic lesions of the long bones on X-ray. Five of the infants died within six weeks of birth. Virological studies were completed for 11 patients. Rubella virus was isolated from 10 patients from throat swabs, rectal swabs, or urine, or all three. Three infants have

excreted the virus in the urine for several weeks after birth. One known contact has developed the disease. Thus, infants with the congenital rubella syndrome must be considered to have a transplacental disease which is contagious. (Authors)

Sever, J. L. (Section of Infectious Dis., NINDS, NIH, Bethesda, Md. 20014), Hardy, J. B., Nelson, K. B. and Gilkeson, M. R. Rubella in the Collaborative Perinatal Research Study: Clinical and Laboratory Findings in Children Through Three Years of Age. *Amer. J. Dis. Child.*, 118, 1969, 123-132.

The Collaborative Perinatal Research investigations during the 1964 rubella epidemic involved 6,161 pregnant women. Seroepidemiological survey indicated 85.4% had prior immunity. More white than Negro patients were at risk. Clinical rubella occurred in 128 pregnancies. With first trimester rubella, 16.7% of the children had congenital rubella. With second trimester rubella, 10.3% had rubella associated defects. Repeated examinations were needed to identify the abnormalities in the second trimester cases. Geographical differences in risk were demonstrated: 7% of pregnant women tested from Baltimore and Memphis were at risk and 31% of women from Los Angeles. Other high risk groups were Hawaii and Puerto Rico. (dsh Abstracts)

Sheridan, M. D. Final Report of a Prospective Study of Children Whose Mothers had Rubella in Early Pregnancy. *Brit. Med. J.*, 2(5408), 1964, 536-539

In a three-year period, 1950-2, there were 578 pregnancies complicated by rubella which were available for analysis. Medical exams were carried out three times: at 2, between 3 and 6, and between 8 and 11 years of age. When rubella occurred after the 16th week of pregnancy, the incidence of abnormalities was no higher than in non-rubella controls. When infection occurred during the first 16 weeks, there were more abnormalities. Major abnormalities (involving the eye, ear, and heart) occurred in 15% of the children, while 16% more had minor abnormalities. However, there was a normal distribution of intelligence. Of 227 children seen for the third examination, 43 (19%) had a significant degree of hearing loss, more than 20 dB for at least two adjacent frequencies. Of these, 17 cases with significant degrees of hearing loss were noted for the first time at the third examination; in 10 cases the loss was bilateral. Thus long-term follow up and re-assessment seemed indicated. (dsh Abstracts)

Skinner, C. W., Jr. The Rubella Problem. *Amer. J. Dis. Child.*, 101(1), 1961, 78-86

Another of the seminar reports from the University of Colorado's Department of Pediatrics. In this review of recent developments in regard to rubella, the author discusses components of the syndrome, incidence of congenital anomalies in infants of mothers who developed rubella during pregnancy, clinical findings in regard to the disease, and preventive measures to reduce possibility of congenital anomalies. It is emphasized that, in spite of immunity to rubella in the mother, the fetus may still be attacked by the rubella virus in the first trimester. 28 reference. (Rehab. Lit.)

Strain, W. E. (Ed.) (Canadian Hearing Society, 60 Bedford Road, Toronto 5.) A New Test for Rubella. Hear. Eye, 35(1), 1967, 15

A physician can determine in three hours whether an expectant mother has protection against rubella, even if infection occurred years before. (Author)

Tartakow, I. J. (Nassau County Dept. Health, Mineola, N.Y.) The Teratogenicity of Maternal Rubella. *J. Pediat.*, 66, 1965, 380-391

In a prospective study, major congenital malformations were found in 16.7% and minor deformities in 8.3% of infants born of women who had had rubella in the first trimester, compared with 3.3% major and 1.7% minor malformations in the

control group. Women with maternal rubella in the second trimester gave birth to 3.3% of children with major and 13.4% with minor defects, while those with rubella in the third trimester had no infant with major and 14.3% with minor abnormalities. The abortion rate when the disease occurred in the first trimester was found to be 48.6%. Premature infants were born of 12.6% of the women with rubella and of none of the women in the control group. The types of malformations, major and minor, are described. 20 references. (Author's summary)

Thompson, J. F. (Indiana U. Sch. Med., Indianapolis), and Harvey, V. K., Jr. The "German Measles" Epidemic in Indiana. *Amer. J. Obstet. Gynec.*, 95(1), 1966, 55-60

13,634 cases were observed in 1964 during five months as compared to 1,359 in 1963 during the same period. Of 282 women who presented the disease in the first three months of pregnancy, 43 had a malformed child: six had stillborn infants, seven who died in the first days of life, 10 with cataracts, 16 with heart malformations. The incidence of infants with congenital malformations is 25% in 43 mothers non-immunized before birth as compared to 13% in 239 immunized mothers. (dsh Abstracts)

Throburn, M. J. (U. West Indies, Kingston, Jamaica) and Miller, C. Pathology of Congenital Rubella in Jamaica. *Arch. Dis. Childh.*, 42(224), 1967, 389-396

The pathological features of eight cases of congenital rubella, resulting from a recent epidemic in Jamaica, have been described. In addition to the findings reported in recent American pediatric literature, the authors found nephrocalcinosis, congenital glomerulosclerosis, cerebral dystrophic calcification, and atrophy of the thymus. A parallel has been suggested between the congenital rubella syndrome and runt disease. 30 references. (Authors summary)

Tondury, G. (U. Zurich, Switzerland) and Smith, D. W. Fetal Rubella Pathology. *J. Pediat.*, 68, 1966, 867-879

Histologic evidence of disease was found in 68% of the fetuses obtained in good condition by therapeutic interruption following maternal rubella during the first trimester. The manifestations interpreted as disease consisted of cell damage and necrosis without inflammatory or fibrotic response. Sporadic foci of cellular damage were found in the chorionic epithelium, endothelial lining of the blood vessels and heart, myrocardial cells, skeletal muscle cells, and, in particular, cells of the developing lens, inner ear, and teeth. The rubella-induced defects appear to be a consequence of cellular damage resulting in defective form and/or function of the developing tissue. The route of fetal entry of the virus is apparently via disease in the chorion with subsequent spread to other fetal tissues which may show evidence of disease months after the acquisition of the infection. 26 references. (Authors summary)

Vernon, M. (Michael Reese Hosp., Chicago, Ill.) Rubella: An Introduction. *Nat. Hear. Aid. J.*, 22(2), 1969, 4, 22

Rubella is not only damaging to the unborn child but also to the infant. Disorders associated with rubella are briefly discussed. (dsh Abstracts)

Vernon, M. (Michael Reese Hosp., Chicago, Ill.) Characteristics Associated With Post-Rubella Deaf Children: Psychological, Educational, and Physical. *Volta Rev.*, 69(3), 1967, 176-185

An in situ research study of the post-rubella children (129 cases) in a sample of 1,468 deaf children is reported. Rubella is found to have a prevalence of approximately 9% as an etiological factor. 43% of these 129 children were premature births and 53% of them were multiply handicapped. On measures of educational achieve-

ment, the post-rubella deaf were found to do poorly relative to other groups of deaf children, even when IQ level was taken into consideration. Part of this was accounted for by the high prevalence of aphasia (21.9%) among these children. Underlying both the aphasia and the other learning disabilities are probably central nervous system lesions. This was reflected in the psycho-diagnostic measures administered to the sample. Psychological evaluations, teachers' ratings, and school records all indicate an elevated rate of severe emotional disturbance within the post-rubella group, much of which is probably based on the neurological causes that underlie the learning disabilities. (Author)

Ward, P. H. (Vanderbilt U. Sch. Med., Nashville, Tenn. 37203), Honrubia, V. and Moore, B. S. Inner Ear Pathology in Deafness Due to Maternal Rubella. *Arch. Otolaryngol.*, 87, 1968, 22-28

The histopathological abnormalities described in the temporal bones of previous maternal rubella cases that have been reported are reviewed. The abnormalities in a well documented case of postrubella syndrome in an eight-week-old infant are presented and discussed. The primary changes were confined to the stria vascularis, tectorial membrane, and organ of Corti and saccule. These changes correspond to the so-called sacculoccochlear degeneration of Scheibe. Additional abnormalities of the stria vascularis were observed and described. The pathologic process in the inner ear was similar to the alterations observed in postnatal viral infections such as measles, and mumps deafness. (Authors summary)

White, L. R. (Nat. Inst. Hlth., Bethesda, Md.), Sever, J. L. and Alepa, F. P. Maternal and Congenital Rubella Before 1964: Frequency, Clinical Features, and Search for Isoimmune Phenomena. *J. Pediat.*, 74, 1969, 198-207

Prior to the 1964 epidemic, the congenital rubella syndrome was thought to consist of abnormalities such as deafness, blindness, congenital heart disease, and abnormalities of the central nervous system, particularly microcephaly and mental retardation. The epidemic occurring in the spring of 1964 led to the description of several new features including anemia, hepatitis, encephalitis, and long bone lesions. This study concludes that the expanded congenital rubella syndrome occurred in infants prior to 1964 and that no recent change has occurred in the syndrome of the virulence of the virus. 25 references. (dsh Abstracts)

Witte, J. J. (Nat. Communicable Dis. Cent. Atlanta, Ga. 30333), Karchmer, A. W., Case, G., Herrmann, K. L., Abrutyn, E., Kassanoff, I. and Neill, J. S. Epidemiology of Rubella. *Amer. J. Dis. Child.*, 118(1), 1969, 107-111

Review of surveillance data over past four decades suggests six to nine year periodicity for rubella. Next peak is predicted as early as spring, 1970. (dsh Abstracts)

ABSTRACTS OF LITERATURE ON MULTIPLE HANDICAPPED HEARING IMPAIRED

Altshuler, K. Z. (N.Y. State Psychiat. Inst., 722 W. 168 St., N.Y. City), and Baroff, G. S. Mental Health Problems and Needs of the Deaf, *Psychiat. Quart. Suppl.* 36, 196, 44-52

The research programs of the Mental Health Project for the Deaf has surveyed nearly 11,000 deaf adults, their mating and fertility patterns, and made a comprehensive study of a random sample of the deaf population and all members of certain subgroups. From the study of the hospitalized deaf, the expectancy rate for schizophrenia has been tentatively estimated at 2.5%, with the presenting form of

the disease differing in some respects from schizophrenia in the patient who can hear. In the pilot mental health clinic, more than 150 out-patients were seen; and virtually every type of psychiatric disorder was represented in them. (dsh Abstracts)

Altshuler, K. Z., Rainer, J. D. and Baroff, G. S. A Mental Health Program for the Deaf. *Rehab. Rec.*, 3(4), 1962, 3-5

Describes the establishment of a systematic study of mental health needs of persons with prelingual deafness. The threefold objectives include (a) the exploration of the range of adaptive potentials of such persons, (b) the provision of outpatient psychological and psychiatric services on a pilot basis, (c) and the training of future professional workers for this area of mental health. Preliminary observations and recommendations related to each of the three objectives are offered. (dsh Abstracts)

Anderson, R. M. and Stevens, G. D. Practices and Problems in Educating Deaf Retarded Children in Residential Schools. *Except. Child.*, 35(9), 1969, 687-694

Information including epidemiological data from six residential schools for the deaf was collected. It included data relative to prevalence, classification, and nomenclature; numbers and kinds of disabilities in addition to deafness and mental retardation; and estimations of projected grade level expectancy for mentally retarded deaf children. A total of 304 (19% of the pupil population) pupils with an IQ of below 83 were enrolled in these schools; 132 of these children were classified as mentally retarded. 73 children were reported to have one or more disabilities in addition to deafness and mental retardation. A mean grade level expectancy of 43 was predicted for 117 of the children. 30 references. (dsh Abstracts)

Barker, F. B. (Rochester State Hosp., Minn.) Impaired Hearing in Psychotic Patients: A Pilot Study. *Ment. Hosp.*, 15, 1964, 434-435, 438

At the start of the study 84 psychotic patients were reported by their ward physicians to have some degree of hearing loss. During the next two years 7 cases previously overlooked and 54 among new admissions were noted. Of 64 examined by an otologist, the hearing losses of 12 were judged too mild and of 16 too advanced for treatment. Surgery was recommended for 2, and hearing aids for 34. Evaluation of 27 patients who were fitted with aids was determined by questionnaires completed by ward physicians and nurses. Other aspects of the study, which led to the establishment of a Service for the Deaf in the hospital, are reported. (dsh Abstracts)

Bergman, M., Rusalem, H., Malles, I., Schiller, V., Cohan, H. and McKay, E. Auditory Rehabilitation for Hearing-Impaired Blind Persons. *ASHA Monogr.*, 12, 1965, Pp 96

A report of an investigation of various aspects of auditory performance and social adjustment of hearing-impaired blind persons. The investigation, carried out at the Industrial Home for the Blind in Brooklyn, New York, had as its main purpose "the development of a pilot rehabilitation program for hearing-impaired persons. Therefore, the auditory research. . .was concerned primarily with extending the standard battery of hearing tests for use with and without hearing aids in order to provide more specific information about the auditory problems of such subjects, and with the techniques for developing and utilizing a library of stereophonic tape recordings as a tool in the specialized auditory training required for blind individuals who must use hearing aids." Investigation of localization, lateralization, fusion, optimum speech-to-noise ratio, and motivation factors in speech discrimination tests took place in a specially constructed test suite. Some audiological findings were: (a) localization was better for continuous noises rather than for transient signals, such as pulsed white noise, for all aided and unaided conditions evaluated, provided

the subject moved his head freely in the sound field. (b) Correct lateralizations were usually to the better-ear side in the unaided condition and to the aided side when a monaural hearing aid was in place. (c) "In general, there was close agreement between the lateralization scores and achievement of (midline) fusion at the two test levels (45 dB and 65 dB SPL)." (d) The fusion test ". . .provided a convenient and apparently accurate method of determining the proper gain control settings of the hearing aids to achieving sterophonia." (e) In a substudy on the effects of motivation on discrimination scores, 5 of the 15 subjects tested had markedly better discrimination scores with the pseudo-aids. (f) Clients who had not used hearing aids previously and were fitted with such aids during the Project showed greater gains on selected social variables than those who had had previous experience with a hearing aid. Five case studies and seven appendixes containing form letters, data forms and rating scales are included. 24 references. (dsh Abstracts)

Bettica, L. J. (Industrial Home for Blind, Brooklyn, N.Y.) and Newton, D. Great Expectations for Deaf-Blind. *Rehab. Rec.*, 6(3), 1965, 7-11

A descriptive narrative of the services available to deaf-blind persons to enhance their potential. (dsh Abstracts)

Braam, A. (Inst. Deaf, St. Michielsgestel, The Netherlands) and Van Dijk, J. Motor Development in the Education of Deaf-Blind Children. An Educational Documentary Film.

This is a 16mm film of 30 minutes, with a soundtrack in English. It shows the steps deaf-blind children have to take before language comes into perspective. In the first part, the importance of developing knowledge of the body as a medium for representation is emphasized. In the second part, non-verbal deaf-blind children in various stages of development are seen. The work with children on a pre-imitation and on an imitation level is shown as well as the development of symbol-consciousness. In coherence with the language development, some parts of the music program are illustrated. Copies of the film are obtainable. (dsh Abstracts)

Burns, D. J. and Stenquist, G. M. The Deaf-Blind in the United States—Their Care, Education, and Guidance. *Rehab. Lit.*, 21, 1960, 334-344.

There are 372 deaf-blind children under the age of 20 of whom 87 are in deaf-blind departments of schools. Over 20 years of age there are between 3,300 and 3,400 deaf-blind. Available services and organizations devoted to this group are listed and described. A questionnaire study of the eight schools for the deaf-blind shows that a majority of the pupils are "deaf and partially blind" and that the principal methods of instruction are vibration (Tadoma), Braille, and large print. Other methods of instruction and content of curricula are described. Current views of evaluation, research, and rehabilitation are discussed. 51 references. (dsh Abstracts)

Cox, L. V. (Maryland Sch. for Blind, Baltimore) The Maryland School for the Blind Summer Day School Program for Pre-School Multi-Handicapped Blind Children. *Intern. J. for Educ. of Blind*, 18(4), 1968, 97-99

Twenty-three children with a median CA of 3.8 years spent five weeks in a program designed to stimulate their development and evaluate their potential. At the beginning their behavioral median was 1.3 years: at the end, 1.8 years. 12 subjects were victims of rubella. Activities incorporated in the program included individual play, group play, toilet-training, self-care and feeding, music and rhythms, walks, activities to stimulate speech, listening to stories, care of pets, and crafts. (dsh Abstracts)

Davis, C. J. (Perkins Sch. for Blind, Watertown, Mass.) The Deaf-Blind Child—Diagnosis and Evaluation. *Proc. Amer. Instr. Deaf*, 40, 1961, 69-71

The deaf-blind child has a personality structure that is unique and complex and with a great range of variation in the group. This is not a matter of adding the handicaps of deafness and blindness together, but creating a new type of problem. A team of three evaluates the deaf-blind child at Perkins. One of the team members works with the child to determine his level of auditory and language function. The second attempts to determine the level of educability of the child. The third member sees the parents or at least the mother for a semi-structured interview and complete case history. The findings of the team are synthesized and predictions are made. (dsh Abstracts)

Glovsky, L. (Training Sch., Vineland, N.J.) and Rigrodsky, S. A Classroom Program for Auditorally Handicapped Mentally Deficient Children. *Train. Sch. Bull.*, 60, 1963, 56-69

A description of an experimental classroom program established to meet the needs of mentally-retarded, auditorally-handicapped children. Six children (CA, 11-17, MA, 6.6-7.6) participated in the study. Results were mixed. (dsh Abstracts)

Grewel, F. (Dept. Child Psychiatry, Wilhelmina Gasthauis, Amsterdam, Netherlands) Multiple Handicapped Deaf Children; Neurological Disorders in "Deaf" Children. *Teacher Deaf,* 63, 1965, 185-193

Discussed diagnostic differentiation within a group of deaf children. Hearing loss and multiple handicaps associated with neurological disorders are frequent in school populations. Author stresses "increasing knowledge of the hearing organ, the central path and the acoustic cortex, as well as the study of such pathological material of individuals appertaining to the heterogeneous group of the deaf." (dsh Abstracts)

Johnston, W. A. (Jordanstown School, England) Let's Educate Multiply Handicapped Children. *Teacher Deaf,* 66, 1968, 115-119

The number of multiply handicapped deaf children is rising steadily. Some considerations in teaching these children are as follows: grouping of similar children, more individual teaching and attention to needs, more support and wider services for teachers of these classes. (dsh Abstracts)

Leshin, G. J. The Slow Learning Deaf Child. *Proc. Amer. Instr. Deaf,* 40, 1961, 197-202

The term "slow learning deaf child" was defined in all its aspects and limited in this paper to the deaf child whose learning difficulties do not stem from organic lesions or primary mental retardation. A case history was cited in detail to indicate the importance of careful diagnosis to determine the specific cause of the learning difficulties, which may arise from organic, intellectual, emotional, environmental, or educational sources. Unless the classroom teacher understands the causes she is not likely to be in a position to plan a successful educational approach. The information needed may be provided from many professional areas, but the teacher of the deaf is the person who, in the final analysis, must utilize the information to overcome learning difficulties. A step-by-step analysis of the information available to the teacher was made, as well as suggestions for increased cooperative utilization of resource people such as the psychologist, social worker, physician, speech pathologist, and audiologist. Learning difficulties of the deaf child can be prevented or at least dealt with at a very early age. (Author's summary)

Lowell, E. L. (John Tracy Clinic, Los Angeles, Calif.) A Point of View Regarding the Multiple Handicapped Deaf. *Proc. Amer. Instr. Deaf,* 40, 1961, 64-69

Distinguishing between a logical and an emotional basis for decision making, this paper suggests that the multiple handicapped deaf should not be educated in

regular schools for the deaf, as they are presently constituted. Multiple handicapped deaf children have been referred to schools for the deaf in the absence of any other suitable facilities. It is suggested that accepting these children in the traditional school may be unfair to the child, the other children in the class, the teacher, the school, and the deaf in general. The appropriate professional role for the teacher of the deaf is seen as a member of a team dealing with such children. Attempting to do the entire job without additional training is considered unprofessional. Excluding the multiple handicapped deaf child, particularly those with subtle central involvement, would force educators of the deaf to clarify and refine their evaluation procedures so that exclusions might be made on an objective basis. An ideal program for regional centers to meet, adequately, the needs of the multiple handicapped deaf children, is described. (Author's summary)

Luzski, W. A. (U. Michigan Med. Cen., Ann Arbor) and Luzski, M. B. Habilitation Suggestions for Deaf Retarded Persons. *Hear. Speech News,* 34(3), 1966, 5-6, 22

The deaf retarded person exceeded the normal hearing retarded subjects "on the Block Design subtest of the WAIS/WISC." The results of this subtest "suggest that deaf subjects are more efficient than non-deaf subjects when they use the skills of analysis and synthesis in responding to non-language tests." Three factors need to be evaluated before planning for placement: (a) degree of retardation, (b) degree of deafness and communication skills, (c) visual motor skills of a nonverbal nature. Types of work they can do are listed. (dsh Abstracts)

Mangan, K. The Multiply Handicapped Child in a School for the Deaf. *Proc. 34th Meet. Conf. Execs. Amer. Schs. Deaf,* Austin, Tex., 1962, 66-67

The tasks facing educators of the deaf today are (a) defining reasonable limits regarding the types and degrees of multiple handicaps that can be served in the school for the deaf, (b) developing appropriate diagnostic techniques and facilities, (c) providing specialized instructional programs, (d) assisting in the development of facilities in other institutions for children who cannot profit from the educational program of the school for the deaf. The Illinois School for the Deaf has a special unit for multiply handicapped children, with three teachers, and a supervising teacher serving 23 full-time and five part-time students. Three types of children are enrolled in the special unit: (a) pupils who have more residual hearing than they are using at the present time, (b) physically handicapped children, particularly the cerebral palsied, and (c) pupils with special learning problems in language. (dsh Abstracts)

Miller, W. E. (Inst. Logopedics, Wichita, Kan.) The Cerebral Palsied Deaf Child. *Proc. Amer. Instr. Deaf,* 40, 1961, 80-85

The examination of each child, including physical, psychological, speech and hearing tests, is described in detail. From the results obtained an individual program is established for each child, with particular stress on language development. In the classroom, teaching methods similar to those in the schools for the deaf are supplemented with special materials designed to overcome the child's physical handicap. The need for instructors knowledgeable about both cerebral palsy and deafness is stressed, in order for the cerebral-palsied deaf child to achieve the attainable goals of reading, some speech, and a means of written communication. (dsh Abstracts)

Mulholland, A. M. (Northwestern U.) The Multiple-Handicapped Child—The Brain-Injured Child. *Proc. Amer. Instr. Deaf,* 40, 1961, 74-80

The term "brain-injured" is so broad as to be relatively useless in terms of the classroom teacher. Diagnostic teaching will bring out subtle behavioral patterns as

well as equally subtle aberrant learning patterns of the child who does not progress academically. That an all-encompassing label of "brain injury" masks the nature of specific individual needs and potentialities is illustrated by case histories of seven children who are deaf and have other problems. (dsh Abstracts)

McHugh, H. E. The Brain-Injured Child with Impaired Hearing. *Laryngoscope,* 71, 1961, 1034-1057

"Although the term 'brain-injured' is vague and unscientific, it is used herein for want of a better title for those children who cannot as yet be conveniently diagnosed as any specific type of 'damage'. . .In this context the brain-injured child is one whose brain was 'damaged' as the result of anoxia, trauma, toxins or infection, before, during, or at any time after birth." The effects of the damage are subtle and, therefore, cerebral palsied and mentally retarded children are not included in this group. The behavior of brain-injured children is characterized on one hand by inconsistency, unpredictability; distractibility; and emotional instability; and on the other hand by perseverative behavior. "They may be said to have a language disorder: a disorder in symbolic behavior." The author discusses possible neural mechanisms for normal communicative function and speculates about the neural dysfunction which leads to communicative disorders. He presents case histories on two children to illustrate the kinds of studies done to evaluate these children and to typify the findings. (dsh Abstracts)

Nisbet, G. Problems of Deafness in Children. *Public Health Report* 83(2), 1969, 63-88

The causes of congenital deafness are studied in 677 cases: 36% of genetical origin, 30.5% to unknown origin, and respectively, 13.4, 12.2 and 5.9% due to neonatal anoxia, hemolytic disease of the newborn infant, and rubella. The diagnosis of deafness must be made as soon as possible, the adaptation and the use of the auditive remains giving the best results in the second, third, and fourth year of life. However, the maintenance of care, the intellectual level and the skill and perseverance of the mother, play an important part. The detection by tonal audiometry at the preschool age which permitted the detection of 14 auditory deficiencies in 162 children is a useful tool which must be developed. (dsh Abstracts)

Nober, E. H. Hearing Problems Associated with Cerebral Palsy. In W. M. Cruickshank (Ed.), Cerebral Palsy: Its Individual and Community Problems (Rev. Ed.), Syracuse, N. Y., Syracuse U. Press, 1966, Pp 277-336

Primarily an introduction to audiometry and audiology. Discusses disorders of hearing, etiologies, pure tone and speech audiometry, and auditory rehabilitation. Several brief sections are devoted to audiologic findings on the cerebral palsied. 150 references. (dsh Abstracts)

Pauline, Sister M. The Multiple-Handicapped Deaf Child. *Volta Rev.*, 62. 1960. 350-355

The author discusses two types of multiple handicapped children. First, the deaf child with brain damage but with no observable physical handicap; i.e., the brain injury may be severe and widespread and yet show no motor involvement. She states that many of the contributing causes for brain injury are also causes for deafness. It seems possible that some of our "problem" deaf children may also be brain injured and require an understanding of special techniques. She says that brain damage affects in different ways; how one perceives, how one controls one's behavior and impulses, and how long one can attend to a task. The brain-injured child may also perseverate. (Perseveration is an observable sympton.) The

paper suggests that the teacher use approaches which crystallize and experience which eliminates distractions. Use controlled situations which emphasize only the key item. The second portion of the paper deals with the deaf child with cerebral palsy who is ambulatory. Cerebral palsy is usually accompanied by some motor involvement. The big muscle development precedes small muscle coordination. A child who has many involuntary movements will probably have difficulty in holding a position long enough to produce the fine skill needed for sound production of consonants. The cerebral-palsy child may be delayed in his ability to bite, chew, swallow, laugh, and cry, therefore having very little practice in the use of the speech organs. He will need physical help and should be checked on producing the following: smiling. puckering, depression angle of mouth, jaw elevation and depression, condition of teeth, position of head, breathing rate, and tongue control. A cerebral-palsy child needs more training as he has missed many of the satisfactions concomitant with acquisition of physical process. The methods should include emphasis on (a) voice, usage and production, (b) breath control, (c) comprehension, (d) structured exercises and manipulation of tongue and lips. The child will need success in speech activities arranged so that he can maintain an interested attitude. Because carry-over will be a definite problem to him, he will need to be taught in life situations and will need the support of all who enter his life—not just the teacher. (dsh Abstracts)

Rainer, J. D., Altshuler, K. Z. and Kallman, F. J. (Eds.) Family and Mental Health Problems in a Deaf Population. Springfield, Ill.: Charles C. Thomas, 1969, Pp 289

This is the second edition of a study on family and mental health problems associated with deafenss. The study was conducted in the state of New York. The book is divided into four parts plus two appendices. Part I describes research and sampling methods and treats subjects such as demographic considerations, genetic aspects, patterns of socialization, community integration, educational background and vocational factors. Part II describes psychiatric considerations including an operational description of a pilot psychiatric clinic, psychological testing, and psychotherapy for the deaf. Part III describes psychiatric inpatient programs for the deaf and Part IV summarizes the main findings of the study with special emphasis on preventive mental health planning, clinical management of deaf psychiatric patients, and suggestions for further research. The appendices contain the main new material that has been added to the first (1963) edition. The appendices contain reprints of two articles published elsewhere by two of the authors. The only other changes from the first edition are typographical corrections. 253 references. (dsh Abstracts)

Rosenberg, P. E. Sensorineural Hearing Loss. In Maico Audiological Library Series, No. 6, Minneapolis: Maico Electronics, 1962. Pp 3

"By conservative estimates there are approximately 10,000,000 people in the United States who suffer from a handicapping hearing impairment. Of these. . . 5,000,000 have a sensorineural deficit." Some casual factors listed and discussed briefly are: heredity, maternal rubella, Rh incompatibility, Meniere's disease, noise exposure, aging, ototoxic drugs, vascular accidents and neoplastic disease. Commonly, the patient with a sensorineural hearing problem experiences problems of auditory discrimination. Rehabilitative procedures for a patient might include the use of a hearing aid, development of lipreading skill, and speech conservation and correction. (dsh Abstracts)

Rose Gertrude, Sister. (St. Mary's Sch. for Deaf, Buffalo, N.Y.) Psychological and Intellectual Problems of the Multiple Handicapped. (Summary) *National Catholic Educ. Assn. Bull.*, 58, 1961, 399

"The severe loss of auditory acuity from early childhood creates psychological and instructional problems that place the child in the category of multiple handicapped." Brief discussions are presented of the brain-injured and of the cerebral-palsied deaf child.

Rusalem, H. (1185 Brooklyn Ave., Brooklyn, N.Y.) Development of the Anne Sullivan Macy Service for Deaf-Blind Persons. *New Outlook Blind,* 56, 1962, 278-282

Describes the new project of the Industrial Home for the Blind, Brooklyn, supported by an OVR grant and organized on a regional basis with the cooperation of local and state welfare and rehabilitation agencies. A full range of rehabilitation services will be offered to the deaf-blind in 15 states from Maine to North Carolina. Discussed are organization and administration of services and their range, training of professional workers with the deaf-blind, and community education on the potentialities of the deaf-blind. (Rehab. Lit.)

Rusalem, H. Deaf-Blind Persons: An Epic Study. *Rehab. Rec.,* 6, 1960, 26-30

This article calls attention to seven publications concerning the deaf-blind which resulted from a study made at the Industrial Home for the Blind through an OVR grant. The publications reviewed included the following: (a) A Manual for Professional Workers, (b) Communication – A Key to Service for Deaf-Blind Men and Women, (c) Report of Medical Studies on Deaf-Blind Persons, (d) A Report on Psychological Studies with Deaf-Blind Persons, (e) Studies in the Vocational Adjustment of Deaf-Blind Persons, (f) Recreation Services for Deaf-Blind Persons, and (g) Survey of Selected Characteristics of Deaf-Blind Adults in New York State. These studies suggest that deaf-blind adults are less limited than usually supposed and that they do have potentialities which can be developed. (dsh Abstracts)

Rusalem, H. and Rusalem, R. Students' Reactions to Deaf-Blindness. *New Outlook for the Blind,* 58(8), 1964, 260-263

A deaf-blind speaker addressed a high school assembly on the problems of coping with his disability as part of an experiment to determine a disabled person's impact on students. Students' attitudes were tested by means of questionnaires, one given before the assembly and two given after it. Of 395 students 78.7% had strongly negative precepts of deaf-blindness before the speech. The most frequent change in the students' ideas about deaf-blind persons was a greater awareness to their capabilities. A series of social distance questionnaire items indicated that girls accept contact with the deaf-blind better than boys, although neither group felt able to accept the idea of dating a deaf-blind person. (dsh Abstracts)

Sellin, D. F. (Michigan State U., E. Lansing) The Mentally Retarded, Hearing-Handicapped Learner: Implications for Teacher Education. *Volta Rev.,* 66, 1964, 258-261

This article is devoted to a consideration of the problems which are associated with educational provisions for the deaf-mentally retarded in a residential school for deaf children. The scope or magnitude of the problem is significant in terms of sheer numbers. This type of multiple handicapped child represents problems related to teacher selection and availability, curriculum and placement. Teachers, generally, do not seem sensitive to the problem. The experience of one residential school does offer evidence that this problem may be faced and solved. (Author)

Skorokhodova, O. I. Prisposoblenie Slepoglukhonemogo k Zhizni. (Acclimatization of the Blind-Deaf to Life.) *Spetsial. Shkola.* 105, 1963, 58-62

A personalized report by Skorokhodova, a research worker at the Institute of Defectology, Moscow, who is herself blind and deaf. Information is given about certain

deaf-blind individuals who have distinguished themsleves in the USSR, and material is presented from the author's experiences at the Khar'kov Clinic under I. A. Sokolyansky. Details of work for the rehabilitation of deaf-blind children include a description of facilities at the Clinic. (dsh Abstracts)

Thibaud, A. (Inst. de Poitiers, France) Session de Formation Pour Educateurs de Sourds-Aveugles. (Training for Educators of the Deaf-Blind) *Rev. Gen. Enseigne. Sourds-Muets,* 61(2), 1969, 60-71

A nine week training session for teachers of the deaf-blind has been started at the Inst. for Deaf at Saint-Michielsgestel, Holland, under the patronage of the American Foundation for Overseas Blind. 14 participants from nine different countries will attend the first course. Areas of study are discussed. (dsh Abstracts)

Thompson, R. E. (Psychological Serv. for the Deaf, Newton Highlands, Mass.) Who Are the Multiply Handicapped Deaf Children? *Volta Rev.*,70(7), 1968, 569-571

The majority of deaf children are multiply handicapped when we term those having psychological and social problems, being slow learners, or lacking intellectual development as forms of a handicap. (dsh Abstracts)

Vernon, M. (Michael Reese Hosp., 2959 S. Ellis, Chicago, Ill. 60616) Techniques of Screening for Mental Illness Among Deaf Clients. *J. Rehab. Deaf,* 2(4), 1969, 23-36

Classical works on the symptomology of mental illness are related to screening procedures with deaf persons. The problems encountered in psychodiagnosis, the present prevalence of misdiagnosis, and the role of nonverbal cues are discussed. A number of specific symptomatic behaviors are listed, suggestions about referral sources, and ways to expedite treatment for deaf persons are given. The major emphasis is on operationally stated suggestions for screening procedures and referral procedures. 15 references. (Author's summary)

Warren, S. A. (Oregon Fairview Home, Salem) Setting Our Sights for the Emotionally Disturbed Deaf. *Proc. Amer. Instr. Deaf,* 40, 1961, 71-74

The emotionally disturbed child is one who is not able to meet his potential or is seriously handicapped in doing so either because of difficulty in his relationships with others or because he is unable to do so without tremendous personal sacrifice. The deaf child's emotional disturbance may be one of three forms or a combination of several. One group is the semi-socialized or unsocialized. The second group is the neurotic. The third group is the so-called psychotic. The largest number fall in the neurotic group. For the smaller, but more seriously disturbed, group efforts may have to be made to establish programs without regard to political boundaries accepting children from several states. (dsh Abstracts)

Weir, R. C. Impact of the Multiple Handicapped Deaf on Special Education. *Volta Rev.,* 65, 1963, 287-289, 325

The number of multiply handicapped deaf children enrolled in schools nearly tripled from 1954-1960, and is still increasing. This makes it necessary for schools to adjust their services and equipment to accommodate these children. An increase in personnel and additional training in the various fields of exceptionality are also needed. Teacher training centers will have to broaden the scope of their educational programs for teachers of the deaf to meet this demand, so that these children can be educated to the utmost of their capabilities. (Author's summary)

Wolf, J. M. and Anderson, R. M. (Eds.) The Multiply Handicapped Child. Springfield, Ill.: *Charles C. Thomas,* 1969. Pp 468

About children "who must learn to cope with concomitant impairments, disabilities, or handicaps." Materials have been developed in such a way as "to meet the needs of individuals who serve exceptional children in almost any capacity." Part one includes seven chapters on the challenge presented to medicine, education and psychology. Part two devotes five chapters to incidence and prevalance studies; in part three, eight chapters concern themselves with special education; part four has five chapters treating the topic of psychological evaluation; and part five presents a theoretical framework or taxonomy in special education in five chapters. A cross reference system is included in the bibliography. 1157 references. (dsh Abstracts)

BIBLIOGRAPHY OF LITERATURE ON RUBELLA

Achs, R., Harper, K. G. and Siegal, M. "Unusual Dermatoglyphic Findings Associated with Rubella Embryopathy", *New Engl. J. Med.*, 274:148-150, 1966

Alfano, J. E. "Ocular Aspects of the Maternal Rubella Syndrome", *Trans. Amer. Acad. Ophthalmol. Otolaryngol*, 70:235-266, #2, Mar-Apr, 1966

Alfano, J. E. "Increased Incidence of Congenital Cataracts", *Amer. J. Ophthalmol*, 59:723-4, Apr 1965

Alford, C. A. "Congenital Rubella: A Review of the Virologic and Serologic Phenomena Occurring after Maternal Rubella in the First Trimester", *South.* Med. J., 59: 745-748, 1966

Alford, C. A. "Studies on Antibody in Congenital Rubella Infections", *Amer. J. Dis. Child.*, 110:455-463, (Oct) 1965

Almeida, J. D. and Laurence, G. D. "Heated and Unheated Antiserum on Rubella Virus: Morphological Effect", *Amer. J. Dis. Child.*, 118:101-106 (July) 1969

Amstey, M. S., Hobbins, T. E. and Parkman, P. D. "Density Gradient Ultracentrifugation of Rubella Virus", *Proc. Soc. Exp. Biol. Med.*, 127: 1231-1236 (Apr) 1968

Anderson, N., Dods, L., Lewis, I. C., Pitt, D., Sims, E., Wall, R. "Congenital Malformations and Maternal Rubella: Progress Report", *Med. J. Aust.*, 1:24, 881, 1961

Anderson, S. G. "Experimental Rubella in Human Volunteers", *J. Immun.*, 62: 29-40 (May) 1949

Anderson, S. G. and McLorinan, H. "Convalescent Rubella Gamma Globulin as a Possible Prophylactic Against Rubella", *Med. J. Aust.*, 1:182-185 (Feb 7) 1953

Asregadoo, E. R. "Congenital Cataracts Associated with Rubella", *West Indian Med. J.*, 13:22-4, Mar 1964

Babbott, F. L., Jr., Rodenberger, B. M. and Ingalls, T. H. "Rubella: Morbidity in a Schoolboy Population, 1935-1959, and a Comparison with Measles, Mumps, and Chickenpox", *JAMA* 178:542-546 (Nov 11) 1961

Baldini, M. "Idiopathic Thrombocytopenic Purpura", *New Engl. J. Med.*, 274:1245-1251 (June 2) 1966

Banatvala, J. E., Best, J. M., Kennedy, E. A., Smith, E. E. and Spence, M. E. "Serological Method for Demonstrating Recent Infection by Rubella Virus", *Brit. Med. J.*, 3:285, 1967

Banatvala, J. E., Horstmann, D. M., Payne, M. C. and Gluck, L. "Rubella Syndrome and Thrombocytopenic Purpura in Newborn Infants: Clinical and Virologic Observations", *New Engl. J. Med.*, 273:474-8, 26 Aug 1965

Barbosa, L. and Warren, J. "Studies on the Detection of Rubella Virus and Its Immunogenicity for Animals and Man", Springfield, Va., *Technical Report PB 175-508* (CFSTI), 1967

Baublis, J. V. and Brown, G. C. "Specific Response of the Immunoglobulins to Rubella Infection", *Proc. Soc. Exp. Biol. Med.*, 128:206-210 (May) 1968

Bayer, W. L., Sherman, F. E., Michaels, R. H., Szeto, I. L. F. and Lewis, J. H. "Purpura in Congenital and Acquired Rubella", *New Engl. J. Med.*, 273:1362-1366 (Dec 16) 1965

Baylor Study Group on Rubella – Members of Baylor Univ., Houston, Tex. "Rubella Epidemic in Retrospect", *Hosp. Prac.*, Vol. 2:3, Mar, 1967

Belcourt, R. J. and Wong, F. C. "Complement Fixation Test for Rubella Virus", *Canad. J. Pub. Hlth.*, 55:203-6, May, 1964

Belcourt, R. J., Kamocki, B. and Wong, F. C. "Growth of Rubella Virus on Rabbit Kidney Monolayer Cultures", *Canad. J. Pub. Hlth.*, 55:523, 1964

Belcourt, R. J., Wong, F. C. and Walcroft, M. J. "Growth of Rubella Virus in Rabbit Foetal Tissues and Cell Cultures", *Canad. J. Pub. Hlth.*, 56:253-254 (June) 1965

Bellanti, J. A., Artenstein, M. S., Olson, L. C., Buescher, E. L., Luhrs, C. E. and Milstead, K. L. "Congenital Rubella", *Amer. J. Dis. Child.*, 110:464-472, (Oct) 1965

Bennett, N. M., Forbes, J. A. and Gray, N. J. "Rubella. II. Clinical Aspects Related to Isolation of Rubella Virus", *Med. J. Aust.*, 2:1016-9, 21 Dec 1963

Berge, T., Brunnhage, F. and Nilsson, L. R. "Congenital Hypoplastic Thrombocytopenia in Rubella Embryopathy", *Acta. Paediat. (Stockholm)*, 52:349-52, Jul 1963

Berkovich, S. and Pangan, J. "Recoveries Of Virus from Premature Infants during Outbreaks of Respiratory Disease: The Relation of Echo Virus Type 22 to Disease of the Upper and Lower Respiratory Tract in the Premature Infant", *Bull. N.Y. Acad. Med.*, 44:377-387, 1968

Best, J. M., Banatvala, J. E., Almeida, J. D. and Waterson, A. P. "Morphological Characteristics of Rubella Virus", *Lancet*, 2:237-239 (Jul 29) 1967

Bittle, J. L. Emery, J. B. and Castro, A. E. "Research and Development of an Inactivated Rubella Virus Vaccine", Springfield, Va. *Technical Report P.B. 173-898*, (CFSTI), 1966

Black, G. H. B., Swan, C. and Tostevin, A. L. "Final Observation on Congenital Defects in Infants following Infectious Diseases During Pregnancy with Special Reference to Rubella", *Med. J. Aust.*, Vol. 2:889-908, 1946

Blattner, R. J. "Congenital Rubella: Persistent Infection of the Brain and Liver", *J. Pediat.*, 68:997-999, 1966

Bloom, J. E., Schiff, G. M., Sutherland, J. M. and Light, L. J. "Studies on Congenital Rubella: Preliminary Results on the Frequency and Significance of Presence of Rubella Virus in the Newborn and the Effect of Gamma Globulin in Preventing Congenital Rubella", *Amer. J. Dis. Child.*, 110:441-3, Oct 1965

Boniuk, M. and Zimmerman, L. E. "Ocular Pathology in the Rubella Syndrome", *Arch. Ophthalmol.*, 77:455, 1967, #4, Apr. 1967

Boúe, A., Plotkin, S. A. and Boúe, J. G. "The In Vitro Growth of Rubella Virus in Human Embryo Cells", *Amer. J. Epidem.*, 81:71-85, Jan 1965

Brackett, R. G. and Cole, G. C. "Preparation and Study of Rubella Virus Vaccines", Springfield, Va., Final Contract Progress Report (CFSTI), 1969

Brawner, D. L. "Maternal Rubella: Results Following an Epidemic", *J. Med. Assoc. Ga.*, 44:451-454, 1955

Brody, J. A. "The Infectiousness of Rubella and the Possibility of Reinfection", *Amer. J. Pub. Health*, 56:1082-1087, 1966

Brown, C. M. and Nathan, B. J. "Maternal Rubella and Congenital Defects", *Lancet*, 1:975-976, 1954

Brown, G. C., Maasab, H. F., Veronelli, J. A. and Francis, T. "Rubella Antibodies in Human Serum: Detection by Indirect Fluorescent Antibody Technique", *Science*, 145:943-945 (Aug 28) 1964

Buescher, E. L., Parkman, P. D., Mundon, F. K. and McCown, J. M. "Studies of Rubella: II. Neutralization of the Virus", *J. Immun.* 93:608-17, Oct 1964

Buescher, E. L. "Behavior of Rubella Virus in Adult Population", *Arch. Ges. Virusforsch,* 16:470-476 (Feb) 1965

Burton, J. F. "Frequency of Rubella Antibody in Sera of Young Pregnant Women and Its Implications", *New Zealand Med. J.,* 66:378-380, 1967

Buser, F., Nicolas, A. and Plotkin, S. A. "Vaccinations against Rubella with an Attenuated Rubella Virus Strain Adapted to a Human Diploid Cell Strain", *Proceedings of the 23rd Symposium on Microbiological Standardization: Rubella Vaccines,* London, Nov. 1968, Basel, Switzerland. *S. Karger,* 1969

Butler, N. R., Dudgeon, J. A. and Plotkin, S. A. "Further Serological Studies on the Rubella Syndrome", *Brit. Med. J.,* 5402:100-60, 18 Jul, 1964

Buynak, E. B., et al "Combined Live Measles, Mumps, and Rubella Virus Vaccines", *JAMA,* 207:2259-2262 (Mar) 1969

Buynak, E. B., et al "Live Attenuated Rubella Virus Vaccines Prepared in Duck Embryo Cell Culture: I. Development and Clinical Testing", *JAMA,* 204:195-200 (Apr 15) 1968

Buynak, E. B., et al "Preparation and Testing of Duck Embryo Cell Culture Rubella Vaccine", *Amer. J. Dis. Child.,* 118:347-354 (Aug) 1969

Byrne, E. B., et al "Live Attenuated Rubella Virus Vaccines In Young Adult Women", *Amer. J. Dis. Child.,* 118:234-236 (Aug) 1969

Carruthers, D. G. "Congenital Deaf-mutism as a Sequela of a Rubella-like Maternal Infection During Pregnancy", *Med. J. Aust.,* 32:1, 315-320, 1945

Carruthers, D. G., Lindsay, Jr., Hemenway, W. G. and Harrison, S. "Inner Ear Pathology Following Maternal Rubella", *Annals Oto-Rhin. Laryngol.,* 62:1201, Dec. 1965

Chagnon, A. and LaFlamme, P. "Effect of Acidity on Rubella Virus", *Canad. J. Microbiol.,* 10:501-2, Jun 1964

Chagnon, A., Podoski, O. and Pavilanis, V. "Comparison between Heat Inactivated and Unheated Sera in Rubella Neutralization Tests", *Abs. 17th Ann. Mtg., Canad.* Soc. Microbiol., 1967

Chambers, R. J. and Bywaters, E. G. L. "Rubella Synovitis", *Ann. Rheum. Dis.,* 22:263-268 (Jul) 1963

Change, T. H., et al "Chromosome Studies of Human Cells Infected "in utero" and "in vitro" with Rubella Virus", *Proc. Soc. Exp. Biol. Med.,* 122:236-243, 1966

Chen, T. C., Sever, J. L., Gilkeson, M. R., Hoffman, L. S., Hardy, J. B. and McCracken, G. H., Jr. "Serum Immunoglobulin Levels in Newborn Infants: II. Survey of Cord and Followup Sera from 123 Infants with Congenital Rubella", *J. of Pediat.,* 74:383-392, Mar. 1969

Chenoweth, A. D. "Planning for a Mass Attack on Rubella", *Children,* 16:94-95, May-June, 1969

Cherry, J. D., Bobinski, J. E. and Comerce, G. D. "Clinical Trials with Attenuated Rubella Virus Vaccine (Cendehill Strain)", *Proc. 23rd Symposium on Microbiolog. Standardization: Rubella Vaccines,* London, Nov. 1968, Basel, Switzerland: *S. Karger,* 1969

Christie, A., Conte, W. R. and McGammon, C. S. "Congenital Defects Following Maternal Rubella", *Amer. J. Dis. Child.,* 70:301-306, 1965

Clarke, D. H. and Casals, J. "Techniques for Hemagglutination and Hemagglutination-Inhibition with Arthropod-Borne Viruses", *Amer. J. Trop. Med.*, 1:561-573, 1958

Cochran, W. D., Cornfeld, M., Friedberg, D. "Congenital Rubella and Thrombocytopenia: Report of two Cases with Initial and Follow-up Viral Cultures", *Pediat.*, 36:268-270, Aug, 1965

Connelly, J. P., Reynolds, S., Crawford, J. D. and Talbot "Viral and Drug Hazards in Pregnancy", *Clin. Pediat. (Phila.)*, 3:587-97, Oct 1964

Cook, R. E. and Odell, G. B. "Perinatal Factors in Prevention of Handicaps", *Pediatric Clinics of No. America*, 1957, 595-609

Cooper, L. Z., et al "Transient Arthritis after Rubella Vaccination", *Amer. J. Dis. Child.*, 118:218-225 (Aug) 1969

Cooper, L. Z. "German Measles", *Scientific American*, 215:1, 30-38, 1966

Cooper, L. Z., Chandor, S. B., Ockerse, A. O., Feinstein, A. B. and Krugman, S. "Immunologic Consequences of Congenital Rubella", *Soc. Pediat. Res.* (Abstracts), 35, 1967

Cooper, L. Z. and Krugman, S. "The Rubella Problem", *Disease-a-Month*, Feb. 1969

Cooper, L. Z., Green, R. H., Krugman, S., Giles, J. P. and Mirick, G. S. "Rubella in Contacts of Infants with Rubella-associated Anomalies", *Morbidity and Mortality Weekly Reports*, USPHS, Dept. HEW, 14:44-45, 1965

Cooper, L. Z. and Krugman, S. "Clinical Manifestations of Postnatal and Congenital Rubella", *Arch. Ophthalmol.* 77:434-444, Apr, 1967

Cooper, L. Z., Giles, J. P. and Krugman, S. "Clinical Trial of Live Attenuated Rubella Virus Vaccine, HPV-77 Strain", *Amer. J. Dis. Child.*, 15:655-657, 1968

Cooper, L. Z., Ziring, P. R., Ockerse, A. B., Giles, J. P. and Krugman, S. "Arthritis Following Immunization With Rubella Vaccines", *Proc. 23rd Symposium on Microbiolog. Standard.: Rubella Vaccines*, London, Nov. 1968, Basel, Switzerland: S. Karger, 1969

Cooper, L. Z. and Krugman, S. "Diagnosis and Management: Congenital Rubella", *Pediatrics*, 37:2, 335-338, 1966

Cooper, L. Z., Green, R. H., Krugman, S., Giles, J. P. and Mirick, G. S. "Neonatal Thrombocytopenic Purpura and other Manifestations of Rubella Contracted in Utero", *Amer. J. Dis. Child.*, 110:416-427, 1965

Cooper, L. Z., Matters, B., Rosenblum, J. K. and Krugman, S. "Experience with a Modified Rubella Hemagglutination Inhibition (HI) Antibody Test", *JAMA* 207: 89-92 (Jan 6) 1969

Corston, J. M. and Mirchandani, L. G. "Investigation of Virus Infection in Pregnancy", *Amer. J. of Obstet. and Gynecol.*, 88:291-7, 1964

Danish, J. M., Tillison, J. K. and Lexitan, M. "Multiple Anomalies in Congenitally Deaf Children", *Eugen. Quarterly*, 10:12-14, 1963

Dent, P. B., et al "Rubella Virus/Leucocyte Interation and Its Role in the Pathogenesis of the Congenital Rubella Syndrome", *Lancet*, 1:291-293, 1968

Desmyter, J., et al "Interferon in Congenital Rubella: Response to Live Attenuated Measles Vaccine", *J. Immuniz.*, 99:771-777 (Dec) 1967

Detels, R., et al "Live Attenuated Rubella Vaccine Given in an Orphanage just Prior to a Rubella Epidemic", *JAMA* 207:709-712 (Jan 27) 1969

Didnan, P. S., Schiff, G. M., Smith, H. D. and Sever, J. L. "Rubella: Studies on the Natural Disease. The Significance of Antibody Status and Communicability Among Young Women", *Amer. J. Dis. Child.* 110:366-9, Oct. 1965

Dods, L. "Stillbirths and Congenital Malformations following Rubella and Other Virus Diseases During Pregnancy", in Parsons, L. (ed.) *Modern Trends in Paediatrics,* London: Butterworth and Co., Publishers, Ltd. 1951

Dudgeon, J. A. "Maternal Rubella and Its Effect on the Fetus", *Arch. Dis. Child.,* 42:222, 1967

Dudgeon, J. A., et al "Clinical and Laboratory Studies with Rubella Vaccines in Adults", *Brit. Med. J.* 1:271-276 (Feb) 1969

Erickson, C. A. "Rubella Early in Pregnancy Causing Congenital Malformations of Eyes and Heart", *J. Pediat.,* 25: 281-283 (Oct) 1944

Evans, M. W. "Congenital Dental Defects in Infants Subsequent to Maternal Rubella During Pregnancy", *Med. J. Aust.,* 2:225-228, 1944

Fabiyi, A., et al "Rubella Virus", *Proc. Soc. Exp. Biol. Med.* 122:392-296, 1966

Ferris, A. A. and Lehmann, N. I. "Rubella. I. Isolation of Rubella Virus-Laboratory Aspects", *Med. J. Aust.* 2:1015-6, 21 Dec, 1963

Field, A. M. "The Occurrence of Neutralizing and Complement Fixing Antibodies in Rubella", *J. Hygiene,* 65:409-421 (Sept) 1967

Forbes, J. A., Bennett, N. M. and Ferris, A. A. "Studies in Rubella: Observations in Elective Infections of Human Volunteers", *Med. J. Aust.,* 1:440-443, (Mar 1) 1969

Fox, M. J. and Bortin, M. M. "Rubella in Pregnancy Causing Malformations in Newborn", *JAMA* 130:568-569 (Mar 2) 1946

Gale, J. L., et al "The Epidemiology of Rubella on Taiwan", *Amer. J. Dis. Child.,* 118:143-145, 1969

Gardner, L. I., Neu, R. L., Schlegel, R. J., and Leao, J. C. "Chromosomes of Foetus following Maternal Rubella", *Lancet* 2:1185, Nov 28, 1964

Geltzer, A. I., Guber, D. and Sears, M. L. "Ocular Manifestations of the 1964-65 Rubella Epidemic", *Amer. J. of Ophthalmol.,* 63:221-229, #2, 1967

Gilkeson, M. R., Hardy, J. B. and Sever, J. L. "Declining Antibody Titers in Children with Congenital Rubella" *J. of Pediat.,* May, 1969

Givan, K. F., Rozee, K. R. and Rhodes, A. J. "Incidence of Rubella Antibodies in Female Subjects", *Canad, Med. Assoc. J.,* 92:126-128, 1965

Goldman, B. R., Schlosser, W. D. and Winchester, R. A. "Further Experiences with the Diagnosis and Surgical Management of Congenital Mixed Deafness", *Laryngoscope,* 74:773-89, June, 1964

Green, R. H., et al "Studies on the Experimental Transmission, Clinical Course, Epidemiology, and Prevention of Rubella", *Trans. Assoc. Amer. Physicians,* 77:118-125, 1964

Greenberg, M., Pellitteri, O. and Barton, J. "Frequency of Defects in Infants whose Mothers had Rubella during Pregnancy", *JAMA,* 165: 675-678 (Oct 12) 1957

Gregg, N. McA. "Further Observations on Congenital Defects in Infants Following Maternal Rubella", *Trans. Ophthalmol. Soc. Aust.,* 1946

Gregg, N. McA., et al "Occurrence of Congenital Defects in Children Following Maternal Rubella During Pregnancy", *Med. J. Aust.,* 2:122, 1945

Gregg, N. McA. "Congenital Cateract Following German Measles in the Mother" *Trans. Ophthalmol. Soc. Aust.*, 3:35-46, 1941

Hall-Jones, J. "Congenital Deafness", *New Zealand Med. J.*, 62:470-5, 1963

Hardy, J. B., et al "Adverse Fetal Outcome Following Maternal Rubella After the First Trimester of Pregnancy", *JAMA*, 207:2414-2420, 1969

Hardy, J. B., Monif, G. R. and Sever, J. L. "Studies in Congenital Rubella, Baltimore, Md., 1964-65: Part II. Clinical and Virologic", *Bull. Johns Hopkins Hosp.*, Feb. 1966

Hardy, J. B. "Rubella and Its Aftermath", *Children*, 16:90-96, 1969

Hardy, J. B. "Viruses and the Fetus", *Postgrad. Med.*, Jan. 1968

Hardy, J. B. and Sever, J. L. "Indirect Inguinal Hernia in Congenital Rubella", *J. Pediat.*, 73:416-418, 1968

Hardy, J. B., Monif, G. R., Medearis, D. N. and Sever, J. L. "Post-natal Transmission of Rubella Virus to Nurses" (letter to editor), *J. Amer. Med.* Assn., 191:1034, 1965

Hay, D. R. "Relation of Maternal Rubella to Congenital Deafness and Other Abnormalities in New Zealand", *N. Zealand Med. J.*, 48:604, 1949

Heggie, A. D. and Robbins, F. C. "Rubella in Naval Recruits: A Virologic Study", *New Engl. J. Med.*, 271:231-234, 1964

Hill, A. B., Doll, R., Galloway, T. McL. and Hughes, J. P. "Virus Diseases in Pregnancy and Congenital Defects", *Brit. J. Prev. Soc. Med.*, 12:1-7, 1958

Hilleman, M. R. "The Control of Viral Diseases with Special Reference to Mumps, Rubella, and Interferon", *Clin. Pharmacol. Ther.*, 9:517-582, 1968

Hilleman, M. R., et al "Live, Attenuated Rubella–Virus Vaccine", *New Engl. J. Med.*, 279:300-303, 1968

Hillenbrand, F. K. H. "The Blood Picture in Rubella: Its Place in Diagnosis", *Lancet*, 2:66-68, 1956

Holmes, I. H. and Warburton, M. F. "Is Rubella an Arborvirus?", *Lancet*, 2:1233-1236, 1967

Hopps, H. E., Parkman, P. D. and Meyer, H. M., Jr. "Laboratory Testing in Rubella Vaccine Control", *Amer. J. Dis Child.*, 118:338-346, 1969

Horstmann, D. M., Banatvala, J. E., Riordan, J. T., Payne, M. C., Whittemore, R., Opton, E. , duVe Florey, C. and Jehangier, E. "Maternal Rubella and the Rubella Syndrome in Infants", *Amer. J. Dis. Child.*, 110:408, 1965

Horstmann, D. M., et al "A Natural Epidemic of Rubella in a Closed Population: Virological and Epidemiological Observations", *Arch. Ges. Virusforsch*, 16:483, 1965

Hughes, I. "Congenital Defects Following Rubella in Pregnancy", *Proc. Royal Soc.* Med., 39:17-18, 1945

Huntley, C. C., Hancock, W. P. and Sever, J. L. "Immunoglobulin Disorder Associated with Congenital Rubella", *Soc. Pediat. Res., Abstracts*, 142, 1966

Huygelen, C., et al "Safety Testing of Rubella Virus Vaccine (Cendehill Strain): Preparation in Primary Rabbit Kidney Cells", *Amer. J. Dis. Child.*, 118:362-366, 1969

Ingalls, T. H. "Rubella: Epidemiology, Virology and Immunology: I. The Epidemiology of Rubella", *Amer. J. Med. Sci.*, 253, 349-356, 1967

Ingalls, T. H., et al "Rubella: Its Epidemiology and Teratology", *Amer. J. Med. Science,* 239:363, 1960

Ingalls, T. H. and Purshottam, N. "Fetal Risks from Rubella During Pregnancy", *New Engl. J. Med.,* 249:454-455, 1953

Ingalls, T. H. "German Measles and German Measles in Pregnancy", *Amer. J. Dis. Child.,* 93:555-558, 1957

Ingalls, T. H. "German Measles (1900-1960)", *Arch. of Environ. Health,* Vol 5, No. 6, Dec. 1962

Jack, I. and Grutzner, J. "Cellular Viraemia in Babies Infected with Rubella Virus before Birth", *Brit. Med. J.,* 1:289-292, 1969

Jackson, A. D. M. and Fisch, L. "Deafness Following Maternal Rubella and Results of a Prospective Investigation", *Lancet,* 2:1241, 1958

Jackson, A. D. M. "Infection and Congenital Abnormalities", *Practitioner,* 191:152-8, 1963

Kantor, T. G. and Tanner, M. "Rubella Arthritis and Rheumatoid Arthritis", *Arthritis Rheum.,* 5:378-383, 1962

Karelitz, S., et al "A Regimen for Immunization Against Measles: Inactivated Vaccine with DPT and Live Vaccine at Age 9 Months", *JAMA,* 191:1067-1070, 1965

Kenrick, K. G., Slinn, R. F., Dorman, D. C. and Menser, M. A. "Immunoglobulins and Rubella-Virus Antibodies in Adults with Congenital Rubella", *Lancet* 1:548-551, 1968

Korones, S. B., Ainger, L. E., Monif, G. R., Roane, J., Sever, J. L. and Fuste, F. "Congenital Rubella Syndrome: New Clinical Aspects with Recovery of Virus from Affected Infants", *J. Pediat.,* 67:166, 1965

Krill, A. E. "The Retinal Disease of Rubella", *Arch. of Ophthalmol.* 77:445-449, 1967

Krugman, S. "Rubella: Clinical and Epidemiological Aspects", *Arch. Ges. Virusforsch,* 16:477-482, 1965

Krugman, S., et al "Studies on Immunity to Measles", *J. Pediat.* 66:471-488, 1965

Krugman, S., et al "Demonstration of Rubella Without Rash", *JAMA,* 151:285-288, 1953

Lande, L. "Congenital Malformation with Severe Damage to the Central Nervous System due to Early Fetal Virus Infection", *J. Pediat.* 36:625, 1950

Lee, P. R., et al "Rubella Arthritis: A Study of Twenty Cases", *Calif. Med.,* 93: 125-128, 1960

Leerhoy, J. "Neutralizing Antibody to Rubella Virus in Sera Collected in Denmark", *Danish Med. Bull.,* 15:273-276, 1968

Leerhoy, J. "Development and Persistence of Neutralizing Antibody in Human Rubella Infection", *Acta. Path. Microbiol. Scand.,* 74:77-84, 1968

Lepow, M. L., Veronelli, J. A. Hostetler, D. D. and Robbins, F. C. "A Trial With Live Attenuated Rubella Vaccine", *Amer. J. Dis. Child.* 115:639-647, 1968

Levine, E. "Psychoeducational Characteristics Following Maternal Rubella", *Amer. J. Dis. Child.,* 81:627-632, 1951

Liggins, G. C. and Phillips, L. I. "Rubella Embryopathy: An Interim Report on a New Zealand Epidemic", *Brit. Med. J.,* 533:711-3, Mar, 1963

Lock, F. R., et al "Incidence of Anomalous Development Following Maternal Rubella: Effect of Clinical Infection on Exposure and Treatment with Gamma Globulin", *Amer. J. Obstet. Gynec.*, 81:451-464, 1961

Lundstrom, R., et al "Rubella Immunity as Related to Age and History of Overt Disease", *Acta. Paediat. Scand.*, 56:279-285, 1967

Lundstrom, R. "Rubella During Pregnancy: Its Effects Upon Perinatal Mortality, the Incidence of Congenital Abnormalities and Immaturity: A Preliminary Report", *Acta. Paediat.*, 41:583-594, 1952

Lundstrom, R. C. and Bloomquist, B. "Gamma Globulin Against Rubella in Pregnancy: I. Prevention of Maternal Rubella by Gamma Globulin and Convalescent Gamma Globulin: A Follow-up Study", *Acta. Paediat.*, 50:444-452, 1961

Lundstrom, R. and Bostrom, Inga-Lisa "Rubella in Pregnancy and the Incidence of Developmental Anomalies of the Eyes", *Acta Ophthalmol.*, 36:782-788, #4, 1958

Marcus, P. I. and Carver, D. H. "Hemadsorption-Negative Plaque Test: New Assay for Rubella Virus Revealing a Unique Interference", *Science*, 149:983-986, 1965

Marine, W. M., Freeman, M. G. and McLennan, J. G. "Localization of Rubella Virus In Therapeutic Abortions", *Clinical Res. (abstract)*, 14:59, 1966

Martin, S. M. "Congenital Defects and Rubella", *Brit. Med. J.*, 1:855, (June), 1945

Masland, R. L. "Tracking down the Causes of Birth Defects", *Today's Health*, 44(80), 1966

Maton, W. G. "Some Account of Rash, Liable to be Mistaken for Scarlatina", *Medical Trans., Royal College of Physicians*, 5:149-165, May, 1815

Medical Annual, Wash., D.C. (Anonymous) "1964 – An Epidemic Year of Rubella (German Measles)", *Medical Annual, D.C.*, 33:480, Oct 1964

Menser, M. A., et al "Congenital Rubella in a Mother and Son", *Aust. Paediat. J.*, 4:200-202, 1968

Menser, M. A., et al "Possible Chemical Factors in the Postnatal Development of Rubella Cataracts", *Lancet* 2:771-772, 1966

Menser, M. A., Harley, I. D., Hertzberg, R., Dorman, D.C. and Murphy, A. M. "Persistence of Virus in Lens for Three Years after Prenatal Rubella", *Lancet*, 2:387-388, 1967

Meyer, H. M., Jr., Parkman, P.D. and Panos, T. C. "Attenuated Rubella Virus: II. Production of an Experimental Live-Virus Vaccine and Clinical Trial", *New Engl. J. Med.*, 275:575-580, 1966

Meyer, H. M., Jr., et al "Clinical Comparison of Highly Modified and Conventional Strains of Attenuated Rubella Viruses, Program and Abstracts", *Soc. of Pediat. Research*, 38th Annual Mtg., Atlantic City, N. J., May 1968

Meyer, H. M., Jr., et al "Clinical Studies with Experimental Live Rubella Virus Vaccine (Strain HPV-77): Evaluation of Vaccine-Induced Immunity", *Amer. J. Dis. Child.*, 115:648-654, 1968

Meyer, H. M., Jr., Parkman, P.D. and Panos, T. C. "Attenuated Rubella Virus", *New Engl. J. Med.*, 275:575-580, 1966

Meyer, H. M., Jr. and Parkman, P. D. "Rubella: Epidemiology, Virology, and Immunology: III. The Immunology of Rubella", *Amer. J. Med. Sci.*, 253:364-373, 1967

Meyer, H. M., Jr., Parkman, P. D. and Hopps, H. E. "Clinical Characteristics of Experimental Infections Induced by Various Attenuated Rubella Vaccine",

Proc. 23rd Symposium on Microbiol. Standard.: Rubella Vaccines, London, Nov. 1968, Basel, Switzerland: S. Karger, 1969

Meyer, H. M., Jr., et al "Clinical Studies with Attenuated Rubella Virus", *Scientific Pub. 147, Pan American Health Org. and WHO,* May 1967

Michaels, R. H. and Melin, G. W. "Prospective Experience with Maternal Rubella and the Associated Congenital Malformations", *Pediat.,* 26:200-209, 1960

Miller, M. H., Rabinowitz, M., Frost, J. O. and Seager, G. M. "Audiological Problems Associated with Maternal Rubella", *Laryngoscope,* 129:417-426, 1969

Monif, G. R. and Sever, J. L. "Limited Persistence of Virus in Congenital Rubella", *Amer. J. Dis. Child.,* 110:452-4, 1965

Monif. G. R., Sever, J. L., Schiff, G. M. and Traub, R. G. "Isolation of Rubella Virus from Products of Conception", *Amer. J. Obstet. Gynec.,* 91:1143-1146, 1965

Murphy, R., Scheff, G. J. and Morrissey, R. A. "A Tissue Hemadsorption Inhibition Neutralization Test for Rubella Antibody", *J. Immun.,* 98:1286-1289, 1967

Murphy, A. M., et al "Rubella Cataracts: Further Clinical and Virologic Observations", *Amer. J. Ophthalmol.,* 64:1109-1119, 1967

Musser, S. "Production of Rubella Virus Vaccine: Live, Attenuated in Canine Kidney Cell Cultures", *Amer. J. Dis. Child.,* 118:334-337, 1969

McCarthy, K. and Taylor-Robinson, C. H. "Rubella", *Brit. Med. Bull.,* 23:185-191, 1967

McCarthy, K., Taylor-Robinson, C. H. and Pillinger, S. E., Isolation of Rubella Virus from Cases in Britain", *Lancet,* 2:593-598, 1963

McCollum, R. W., et al "Attenuated Rubella Virus Vaccine (HPV-77/D5): Antigenic and Protective Efficacy in a Community Trial", *Amer. J. Dis. Child.,* 118:186-189, 1969

McCracken, J. S. "Rubella in the Newborn", *Brit. Med. J.* 5354:420-3, 1963

McGowan, L. "Rubella and Pregnancy: A Current Opinion", *Postgrad. Med.,* 36:88-90, 1964

McLean, D. M., et al "Rubella Virus Infections During Pregnancy: Toronto, 1963-1966", *Canad. Med. Assn. J.,* 95:1174-1178, #23, 1966

Naeye, R. L. and Blanc, W. "Pathogenesis of Congenital Rubella", *JAMA,* 194:1277-1283, 1965

Nagayama, T., et al "Frequency of Rubella Antibody Among Pregnant Women in the Fukuoka District in Southern Japan", *Fukuoka Acta. Med.,* 57-303-305, 1966

Neva, F. A. and Weller, T. H. "Rubella Interferon and Factors Influencing the Indirect Neutralization Test for Rubella Antibody", *J. Immuniz.,* 93:466-473, 1964

Nusbacher, J., Hirschhorn, K. and Cooper, L. Z. "Chromosomal Studies on Congenital Rubella", *New Engl. J. Med.,* 276:1409-1413, 1967

O'Neill, J. F. "Strabismus in Congenital Rubella: Management in the Presence of Brain Damage", *Arch. of Ophthalmol.,* 77:450-454, #4, 1967

Oxford, J. S. "The Growth of Rubella Virus in Small Laboratory Animals", *J. Immuniz.,* 98:697-701, 1967

Parkman, P. D. "Rubella Virus: Isolation, Characterization and Laboratory Diagnois", *Amer. J. Dis. Child.* (to be published)

Parkman, P. D. "Biological Characteristics of Rubella Virus", *Arch. Ges. Virusforsch,* 16:401-11, 1965

Parkman, P. D., Artenstein, M. S., Buescher, E. L., McCown, J. M., Mundon, F. K. and Druzd, A. D. "Studies on Rubella: I. Properties of the Virus", *J. Immuniz.,* 93:595-607, 1964

Parkman, P. D., Buescher, R. L. and Artenstein, M. S. "Recovery of Rubella Virus from Army Recruits", *Proc. Soc. Exp. Biol. Med.,* 111:225-230, 1962

Parkman, P. D., Phillips, P. E. and Meyer, H. M., Jr. "Experimental Rubella Virus Infection in Pregnant Monkeys", *Amer. J. Dis. Child.,* 110:390-394, 1965

Parkman, P. D., et al "Studies of Rubella. II. Neutralization of Virus", *J. Immuniz.,* 93:608-617, 1964

Peczenik, A. and Gauld, J. R. "Rubella at a Military Installation", *Arch. Environ. Health,* 6:657-663, 1963

Phillips, C. A., Behbehani, A. M., Johnson, L. W. and Melnick, J. L., "Isolation of Rubella Virus: An Epidemic Characterized by Rash and Arthritis", *JAMA,* 191:615-618, 1965

Phillips, C. A. Bayatpour, M., Melnick, J. L., Yow, M. D. and Burkhardt, M. "Persistence of Virus in Infants with Congenital Rubella and in Normal Infants with a History of Maternal Rubella", *JAMA,* 193:1027-1029, 1965

Plotkin, S. A., Cornfeld, D. and Ingalls, T. H. "Studies in Immunization with Living Rubella Virus: Trials in Children with a Strain Cultured from an Aborted Fetus", *Amer. J. Dis. Child.,* 110:381-389, 1965

Plotkin, S. A., et al "Intranasally Administered Rubella Vaccine", *Lancet,* 2:934, 1968

Plotkin, S. A. "Rubella: Epidemiology, Virology, and Immunology: II. The Virology of Rubella", *Amer. J. Med. Sci.,* 253:356-364, 1967

Plotkin, S. A., Dudgeon, J. A. and Ramsay, A. M. "Laboratory Studies on Rubella and the Rubella Syndrome", *Brit. Med. J.,* 2:1296-1299, 1963

Rawls, W. E., et al "WHO Collaborative Study on the Seroepidemiology of Rubella", *Bull. WHO,* 37:79-88, 1967

Rawls, W. E., et al "Persistent Virus Infection in Congenital Rubella", *Arch. Ophthalmol.,* 77:430-433, 1965

Rawls, W. E., et al "Spontaneous Virus Carrier Cultures and Postmortem Isolation of Virus from Infants with Congenital Rubella", *Proc. Soc. Exp. Biol. Med.,* 120:623-626, 1965

Rawls, W. E. and Melnick, J. L. "Rubella Virus Carrier Cultures Derived from Congenitally Infected Infants:, *J. Exp. Med.,* 123:795-816, 1966

Rawls, W. E. "Congenital Rubella: The Significance of Virus Persistence" in Melnick, J. L. (ed.): Progress in Medical Virology, Basel, Switzerland: S. Karger, 1968, Vol. 10.

Reese, A. B. "Congenital Cataract and Other Anomalies Following German Measles in Mother", *Amer. J. Ophthalmol.,* 27:483-487, 1944

Reid, R. R., et al "Isolation of Rubella Virus from Congenital Cataracts removed at Operation", *Med. J. Aust.,* 1:540-542, 1966

Rhodes, A. J. "Virus Infections and Congenital Malformations", First Inter. Conf. on Congenital Malformations, London, 1960, *J. B. Lippincott Co.,* 1961

Report: "Rubella and Other Virus Infections During Pregnancy", Ministry of Health Report on Public Health and Medical Sub. No. 101, London, 1960

Scheie, H. G., Schaffer, D. B., Plotkin, S. A. and Kertesz, E. D. "Congenital Rubella Cataracts: Surgical Results and Virus Recovery from Intraocular Tissue", *Arch. of Ophthalmol.* 77:440-444, #4, 1967

Schiff, G. M., Sever, J. L. and Huebner, R. J. "Experimental Rubella: Clinical and Laboratory Findings", *Arch. Intern. Med.*, 116:537-543, 1965

Schiff, G. M. and Sever, J. L. "Rubella: Recent Laboratory and Clinical Advances", *Progr. Med. Virol.*, 8:30-61, 1966

Schiff, G. M. and Dine, M. S. "Transmission of Rubella from Newborns: A Controlled Study Among Young Adult Women and Report of an Unusual Case", *Amer. J. Dis. Child.*, 110:447-451, 1967

Selzer, G. "Rubella in Pregnancy", *S. Afr. J. Obstet. Gynec.* 2:5-9, 1964

Sencer, D. J., Witte, J. J. and Karchmer, A. W. "The Epidemiology of Rubella in the United States", *Proc. 23rd Symposium Microbiol. Standard.: Rubella Vaccines,* London, Nov. 1968, Basel, Switzerland: *S. Karger,* 1969

Sever, J. L., Fabiyi, A., McCallin, P. F., Chu, P. T., Weiss, W. and Gilkerson, M. R. "Rubella Antibody Among Pregnant Women in Hawaii", *Amer. J. Obstet. Gynec.*, 92:1006, 1965

Sever, J. L., Huebner, R. J. Castellano, G. A., Sarma, P. S., Fabiyi, A., Schiff, G. M. and Cusumano, C. L. "Rubella Complement Fixation Test", *Science,* 148:385-387, 1965

Sever, J. L., Schiff, G. M. and Huebner, R. J. "Inactivated Rubella Virus Vaccine", *J. Lab. Clin. Med.*, 62:1015, 1963

Sever, J. L. "The Epidemiology of Rubella", *Arch. Ophthalmol.* 77:427-429, 1967

Sever, J. L., et al "Clinical and Subclinical Rubella Following Intradermal Inoculation of Rubella Virus into Human Volunteers", *Amer. J. Epidem.*, 84:163-166, 1966

Sever, J. L., Schiff, G. M., Bell, J. A., Kapikian, A. Z., Huebner, R. J. and Traub, R. J. "Rubella: Frequency of Antibody Among Children and Adults", *Pediat.*, 35:996-998, 1965

Sever, J. L., Schiff, G. M. and Huebner, R. J. "Frequency of Rubella Antibody Among Pregnant Women and Other Human and Animal Populations", *Obstet. Gynec.*, 23:153-159, 1964

Sever, J. L., et al "Rubella Antibody Determinations", *Pediat.*, 40:789-797, 1967

Sever, J. L. "Rubella Epidemiology and Vaccines", *The Sight-Saving Review,* 37: 68-72, #2, 1967

Sever, J. L. and Monif, G. R. G. "Chronic Infection of the Central Nervous System with Rubella Virus", *Neurology,* 16:111-112, 1966

Sever, J. L., Brody, J. A., McAlister, R., Schiff, G. M. and Cutting, R. "Rubella Epidemic on St. Paul Island in the Pribilofs, 1963: I. Epidemiologic, Clinical, and Serologic Findings", *JAMA,* 191:619-623, 1965

Sever, J. L., et al "Changing Susceptibility to Rubella", *Obstet. Gynec.*, 32:365-369, 1968

Sever, J. L., Schiff, G. M. and Traub, R. G. "Rubella Virus", *JAMA,* 182:663-671, 1962

Siegal, M., Fuerst, H. T. and Peress, N. S. "Fetal Mortality in Maternal Rubella: Results of A Prospective Study from 1957-1964", *Amer. J. Obstet. Gynec.,* 96: 247-253, 1966

Signurjonsson, J. "Rubella and Congenital Deafness", *Amer. J. Med. Sci.,* 242:712-720, 1963

Simons, M. J. "Congenital Rubella: An Immunological Paradox", *Lancet,* 2:1275-1278, 1968

Singer, D. B., Rudolph, A. J., Rosenberg, H. S., Rawls, W. E. and Boniuk, M. "Pathology of the Congenital Rubella Syndrome", *J. Pediat.* 71:665-675, 1967

Smith, J. L. "*Rötheln*", *Arch. Dermat.,* 1:1, 1875

Smith, K. O. and Hobbins, T. E. "Physical Characteristics of Rubella Virus", *J. Immuniz.,* (to be published)

Squire, W. "On Rubella: Rubeola sine Catarrho: Rötheln, or German Measles", *Trans. of the Inter. Cong. of Med.* 4:27-31, Aug, 1881

Stokes, J., Jr., et al "Clinical and Laboratory Tests of Merck Strain Live Attenuated Rubella Virus Vaccine", *Pan American Health Org. Scientific Pub.* No. 147, May, 1967

Strauss, L. and Bernstein, J. "Neonatal Hepatitis in Congenital Rubella: A Histopathological Study", *Arch. Path.,* 86:317-327, 1968

Svedmyr, A., Lundstrom, R. and Thoren, C. "Rubella Immunity as Correlated to Age and History of Overt Disease", *Arch. Ges. Virusforsch,* 22:48-54, 1967

Svedmyr, A. and Thoren, C. "Rubella Immunity of Pregnant Women in Stockholm", *Acta. Paediat. Scand.,* 56:405-407, 1967

Swan, C. "A Study of Three Infants Dying from Congenital Defects Following Maternal Rubella in the Early Stages of Pregnancy", *J. Path. Bact.,* 56:289-295, 1944

Swan, C., et al "Congenital Defects in Infants Following Infectious Diseases During Pregnancy, with Special Reference to Relationship between German Measles and Cataracts, Deaf-mutism, Heart Disease and Microcephaly, and to Period of Pregnancy in which Occurrence of Rubella is Followed by Congenital Abnormalities", *Med. J. Aust.,* 2:201-210, 1943

Swan, C., et al "Further Observations on Congenital Defects in Infants Following Infectious Diseases during Pregnancy, with Special Reference to Rubella", *Med. J. Aust.,* 1:409-413, 1944

Swan, C. "Rubella in Pregnancy as an Aetiological Factor in Congenital Malformation, Stillbirth, Miscarriage and Abortion", *J. Obstet. Gynaec. Brit. Empire,* Part I, 56:345, and Part II, 56:591, 1949

Taylor, G. D. "The Problem of Congenital Deafness", *South. Med. J.,* 57:1-8, 1964

Taylor, G. D. "Congenital Deafness" in H. P. Schenck (Ed.), *Oto-Laryngology,* Hagerstown, Md., *W. F. Prior Co.,* 1960

Thongcharoen, P., Thepitaksa, M. and Prakobpol, C. "Rubella Antibody Among Pregnant Women", *J. Med. Assoc. Thailand,* 51:521-525, 1968

Toth, M. "Incidence of Rubella Virus Neutralizing Antibody in Different Age Groups", *Acta. Microbiol. Acad. Sci.* Hungary, 15:119, 1968

Vaheri, A., et al "Transmission of Attenauted Rubella Vaccines to Human Fetus: A Preliminary Report", *Amer. J. Dis. Child.,* 118:243-246, 1969

Veale, H. "History of An Epidemic of Rötheln, with Observations on its Pathology", *Edin. Med. J.*, 12:404-414, 1866

Vesikari, T., Vaheri, A. and Kauppinen, M. A. "Incidence of Rubella HAI Antibody in Female Subjects in Helsinki", *Ann. Med. Exp. Biol, Fenn.*, 46:109-112, 1968

Wanger, E. M. "Maternal Rubella: A General Orientation to the Disease", *The New Outlook for the Blind*, 61:97-105, #4, 1967

Warkany, J. "Congenital Malformations and Pediatrics", *Pediat.*, 19:725-733, 1957

Waterhouse, E. J. "Rubella (German Measles). Implications for the Education of These Deaf-Blind Children", *Lantern, Sept. 1966.* Perkins Sch. Blind, Watertown, Mass.

Waterhouse, E. J. "Rubella: Implication for Education", *New Outlook for Blind*, 61:106-112, #4, 1967

Watson, G. I. "Serological Studies on Second Attacks of Measles and Rubella", *Lancet*, 1:80-81, 1965

Weber, L. L. "Rubella and Congenital Malformations: Another Opinion", *Postgrad. Med.*, 36:289-90, 1964

Weibel, R. E., et al "Rubella Vaccination in Adult Females", *New Engl. J. Med.*, 280:682-685, 1969

Wiebel, R. E., Stokes, J. Jr., Buynak, E. B., Whitman, J. E., League, M. B. and Hilleman, M. R. "Live Attenuated Rubella Virus Vaccines Prepared in Duck Embryo Cell Culture: II. Clinical Tests in Families and in an Institution", *JAMA*, 205:554-558, 1968

Weibel, R. E., et al "Live Rubella Vaccines in Adults and Children: HPV-77 and Merck-Benoit Strains", *Amer. J. Dis. Child.*, 118:226-229, 1969

Weiss, D. I. and Cooper, L. Z. "Congenital Rubella Cataract: Special Considerations", *Eye, Ear, Nose, Throat Monthly*, 47:28-30, 1968

Weiss, D. I., Cooper, L. Z. and Green, R. H. "Infantial Glaucoma: A Manifestation of Congenital Rubella", *JAMA*, 195:725-727, 1966

Weller, T. H., Alford, C. A., Jr. and Neva, F. A. "Changing Epidemiologic Concepts of Rubella with Particular Reference to Unique Characteristics of the Congenital Infection", Yale J. Biol. Med., 37:455-467, 1965

Wesselhoeft, C. "Rubella (German Measles)", *New Engl. J. Med.*, 236:943-950, 1947

Whitehouse, W. L. "Rubella Before Conception as a Cause of Foetal Abnormality", *Lancet*, 1:139, 1963

Yabezm, H. E. and Yanez, J. E. "Rubella Arthritis", *Ann. Intern. Med.*, 64:772-777, 1966

BIBLIOGRAPHY OF LITERATURE OF DEAF MULTIPLY HANDICAPPED

Anderson, R. M. "Hearing Impairment and Mental Retardation: A Selected Bibliography", *Volta Rev.*, 67:425-432, 1965

ASHA Monograph "Auditory Rehabilitation for Hearing Impaired Blind Persons", *ASHA Mono. No. 12,* Mar, 1965, American Speech and Hearing Assn.

Berhow, B. "Deaf-Blind Children: Their Educational Outlook", *New Outlook for the Blind,* 57:10, 1963

Brown, K. S., Hopkins, L. A. and Hudgins, R. B. "Causes of Childhood Deafness", *Proc. Conv. Oral Educ. for the Deaf,* Northampton, Mass., July, 1967

Brummitt, J. R., Robinson, and Miller, J. R. "Hearing Loss in Infants and Preschool Children. II. Etiological Considerations", *Pediat.*, 32:115-24, 1963

Cicenia, E. F., et al "The Blind Child with Multiple Handicaps: A Challenge", *Int. J. Educ. of Blind,* Vol. XIV, 3:65-71, 1965

Cruickshank, W. M. "The Multiple-Handicapped Child and Courageous Action", *Intern. J. for Educ. of Blind,* 13:65-75, 1964

Denmark, J. C. "Mental Illness and Early Profound Deafness", *Brit. J. Med. Psychol.*, 39:117, 1966

Dinsmore, A. B. "Services for Deaf-Blind Adults and Children", *New Outlook for Blind,* Vol. 60, 4:123-128, 1966

Doctor, P. V. "Multiple Handicaps in the Field of Rehabilitation", *Amer. Ann.* 103: 409-413, 1958

Doctor, P. V. "Multiple Handicaps in the Field of Deafness", *Excep. Child., 26: 156-158, 1959*

Fisch, L. "Deafness in Cerebral Palsy School Children", *Lancet,* 2:370-371, 1955

Froggatt, P. "Public Health and Congenital Disease: The Example of Congenital Deafness", *Irish J. Med. Sci.*, 1964

Gertrude, Sister Rose "Psychological and Intellectual Problems of the Multiple Handicapped", *National Catholic Educ. Assn. Bull.*, 58:399, 1961

Henderson, R. A. "Teaching the Multiply Handicapped Retarded Child", *Except. Child.*, 27:90-92, 1960

Hicks, D. "Description of a Preschool Post-Rubella Deaf Population and Implications for Educational Management", *Callier Hearing and Speech Center, Dallas, Tex.*, 1969

Hoff, J. R. "Education and the Deaf-Blind Child", *New Outlook for the Blind,* Vol. 60, 4:109-113, 1964

International Bureau of Education, "Deaf Children and Retardation", Bull. 37, First qtr. 23, 1963

James, W. C. "Mentally Retarded Deaf Children in a California State Hospital", *Proc. 41st Meeting,* Convention of American Instructors of the Deaf, 1963

Johnson, R. K. "The Institutionalized Mentally Retarded Deaf", *Proc. 41st meeting,* Convention of American Instructors of the Deaf, 1963

Johnston, P. W. and Farrell, M. J. "Auditory Impairments among Resident School Children at the Walter E. Fernald State School", *Amer. J. Ment. Def.*, 58:640-644, 1954

Johnston, P. W. and Farrell, M. J. "An Experiment in Improved Medical and Educational Services for Hard of Hearing Children at Walter E. Fernald State School", *Amer. J. Ment. Def.*, 62:230-237, 1957

Juurmaa, J. "A Comparative Analysis of the Effects of Blindness and Deafness on Psychic Functions", *E.E.N.T. Monthly*, 47:35-50, Nov, 1968

Kodman, F. "The Incidence of Hearing Loss in Mentally Retarded Children", *Amer. J. Ment. Def.*, 62:675-678, 1958

Kodman, F. "An Investigation into the Hearing Loss in Mentally Retarded Children and Adults", *Amer. J. Ment. Def.*, 63:460-463, 1958

Krohn, E. "Out of the quiet shadows", *Volta Rev.*, 58:440-442, 1956

Leenhouts, M. A. "The Mentally Retarded Deaf Child", *Proc. 39th Mtg.* of the Convention of American Instructors of the Deaf, 1959

Mangan, K. R. "A State Program of Services for the Mentally Retarded Deaf Child", *Proc. 41st Mtg.* Convention of American Instructors of the Deaf, 1964

Miles, D. "Rehabilitation of the Multiply Handicapped Deaf", *Deaf Amer.*, 1965, 21-23

Monaghan, A. "Educational Placement for the Multiply Handicapped Hearing Impaired Child", *Volta Rev.*, 66:383-387, 1964

Myklebust, H. R. "The Deaf Child with Other Handicaps", *Amer. Ann. of the Deaf*, 103:496-509, 1958

McCabe, B. F. "The Etiology of Deafness", *Volta Rev.*, 65:471-477, 1963

McConnell, F. "Multiple Handicapped Children: Speech and Hearing Disorders", *AAIB Proceedings*, 1960

Montague, A. M. F. "Prenatal Influences", *Chas. C. Thomas*, Publishers, Springfield, Ill., 1962

Nelson, M. "Identification and Training of Institutionalized and Retarded Deaf Patients", *J. Speech & Hearing Res.*, 4:398, 1961

Nesbitt, R. E. L., Jr. *"Perinatal Casualties"*, Children, 6:123-128, 1959

Onken, R. E. and Parnicky, J. J. "Survey of Selected Characteristics of Deaf-Blind Adults in New York State, Fall, 1957", 7 vols., Industrial Home for the Blind, Brooklyn, New York (Vol. VII)

Pauline, Sister Mary "Multiple Handicapped Deaf Child", *Volta Rev.*, 62:350-355, 1960

Rigrodsky, S. and Glovsky, L. "A Classroom Program for Auditorially Handicapped Mentally Deficient Children", *The Train. Sch. Bull.*, 60:56-70, 1963

Rigrodsky, S. and Goda, S. "Auditory Training Procedures of Certain Mentally Retarded Children", *The Train. Sch. Bull.*, 59:81-88, 1962

Rigrodsky, S., Prunty, F. and Glovsky, L. "A Study of the Incidence, Types, and Associated Etiologies of Hearing Loss in an Institutionalized Mentally Retarded Population", *The Train. Sch. Bull.*, 58:30-34, 1961

Robbins, N. and Stenquist, G. "The Deaf-Blind 'Rubella' Child: Descriptive Characteristics of Children with Auditory-Visual Impariments Resulting from Maternal Rubella during Pregnancy and Discussion of Implications for Educational Planning", *Perkins Sch. for Blind Pub. No. 25*, Jan. 1967 (Watertown, Mass.)

Robbins, N. "Educational Beginnings with Deaf-Blind Children", *Perkins Sch. for Blind*, Watertown, Mass. Pub., 1960

Robbins, N. "Speech Beginnings for the Deaf-Blind Child", *Perkins Sch. for Blind* Bull., Watertown, Mass. 1963

Robinson, H. B. and Robinson, N. M. "The Mentally Retarded Child, a Psychological Approach", *McGraw-Hill Book Co.*, New York, N.Y., 1965

Root, F. K. and Riley, B. "Study of Deaf-Blind Children: A Developmental Plan" *New Outlook for Blind*, 54, No. 6, 1960

Rusalem, H. "Anne Sullivan: An Analysis of her Teaching Techniques", *New Outlook for the Blind*, 60:4, 1966

Schunoff, H. F. and MacPherson, J. R. "What About the Deaf or Hard of Hearing Mentally Defective?", *The Train. Sch. Bull.*, 48:71-75, 1951

Sellin, D. F. "Mentally Retarded, Hearing Handicapped Learner: Implications for Teacher Education", *Volta Rev.*, 66:258-261, 1964

Shere, M. O. "The Cerebral Palsied Child with a Hearing Loss", Reprint, *Volta. Rev.*

Stelle, R. M. "National Committee for the Deaf-Blind Children", *Int. J. Educ. Blind*, 8:134-136, 1959

Van Dyk, J. "The First Steps of a Deaf-Blind Child Toward Language", *Int. J.* Educ. Blind, Vol. XV, 4:112-114, 1966

Vernon, McC. "Current Etiological Factors in Deafness", *Amer. Ann. of Deaf*, 113:106-115, 1968

Vernon, McC. "Multiply Handicapped Deaf Children: Medical, Psychological and Educational Considerations", Research Monograph, *Council of Excep. Child.*, Wash., D.C., 1969

Vernon, McC. "The Brain Injured Deaf Child: A Discussion of the Significance of the Problem, Its Symptoms and Causes in Deaf Children", *Amer. Ann. Deaf*, 1961, 106, 239-50.

Waterhouse, E. J. "Deaf-Blind Children, Perkins School for the Blind", *Proc., 36th Con. Amer. Assn. Workers for Blind*, 1962

Webb, C., et al "Incidence of Hearing Loss in Institutionalized Mental Retardates", *Amer. J. Ment. Def.*, 70:568, 1966

Weir, R. C. "Impact of the Multiple Handicapped Deaf on Special Education", *Volta Rev.*, 65:287-289, 1963

Wolf, J. M. and Anderson, R. M. (Compilers and Eds.) "The Multiply Handicapped Child", 1,157 references., *Chas. C. Thomas, Publisher*, Springfield, Ill., 1969